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## Consumer Attitude and Intention toward Ridesharing

### ABSTRACT

This paper aims to provide insights on collaborative consumption (e.g., accommodation rental and ridesharing services), that is, the peer-to-peer (P2P) exchange of goods and services facilitated by online platforms. The aim of this study is to examine the factors affecting consumer's intention to participate in the sharing economy in particular toward ridesharing services. Data were collected from UberX users in Australia (n=278) and New Zealand (n=295) using online survey and analysed through Structural Equation Modelling in AMOS 25. The research model is tested and compared across three studies. The results show that perceived usefulness and word-of-mouth significantly influence the consumers' attitude toward ridesharing. The results across two samples show that the positive relationship between perceived usefulness as well as word of mouth and attitude toward service innovation is moderated by the consumers' attitude toward the advertising. In addition, currently the ridesharing application requires more effort from the users, especially those who have a lower self-efficacy or are risk adverse towards using this type of service innovation. This paper suggests ridesharing services utilise the power of the word of mouth and peer recommendations in the brand's promotional strategies. Practitioners may also improve the consumers' perceived ease of use of the services. Furthermore, personalised e-guides and instructions can form part of the service user interface which would help curb the negative perception around app usage and complexity, and thus increase consumer confidence.

**Keywords** Ridesharing, sharing economy, Uber, attitude etc.

## **1. INTRODUCTION**

With on-demand start-ups from Uber to Handy disrupting their industries, Uber and its imitators are modern-day franchises without many of the upsides of joining a franchise network where independent contractors are quasi-franchisees. Like franchises, the on-demand platforms offer small-business owners affiliation with a big brand and use that brand to aggregate consumer demand and drive leads. In the U.S., Uber alone has more than 160,000 active independent operators (Benoit et al., 2017; Davidson et al., 2018), whom it recruited with the promise of being their own boss. However, high franchise fees and steep commissions have impeded the uptake of these on-demand platforms. In many ways, the platforms' trendy business models offer a lower value proposition than a franchise, at a much higher cost to the business owner (Standing and Mattsson, 2018). Therefore, it is important that these on-demand platforms mitigate these negative perceptions by maintaining a strong relationship with their franchisees through support mechanisms and initiatives, while at the same time seeking to develop a better understanding of their key stakeholders' demands as a means to improve service quality.

The rapid growth of the sharing economy, exemplified by ridesharing platforms Uber and Lyft, as well as home-sharing platforms Airbnb and Couchsurfing, is changing the patterns of ownership and consumption of goods and services. "Collaborative consumption" or "sharing economy" (Benoit et al., 2017; Davidson et al., 2018) are used as synonyms to describe the economic activities of firms that connect other interdependent economic actors as "sellers" and "buyers" in service contexts such as transportation (e.g. Uber.com), accommodation (e.g. Airbnb.com), or financial services (e.g. Lendingclub.com). In a sharing

economy, consumers exchange services in a peer-to-peer fashion, through matching markets facilitated by social networks and online applications (Breidbach and Brodie, 2017). Businesses such as Uber or Airbnb help individuals to gain economic benefits from underutilized resources such as cars or spare rooms. By becoming “peer-to-peer services for hire” (Cusumano, 2015, p. 34), these firms differ from early sharing platforms like Napster, which focused on the exchange of resource ownership only, but did not include monetary rewards. In contrast, platform businesses like Uber or Airbnb facilitate resource access, and promise monetary rewards for those willing to engage in their context (Breidbach and Brodie, 2017). In the transportation sector, fast-expanding Uber has taken a dramatic amount of business from taxi companies in cities where it operates around the world. In 2015, for example, the company was signing up over 1,100 new ridesharing partners every month in Australia (Allen, 2015). A 2014 survey report of consumers by PricewaterhouseCoopers (2015) found that the majority agreed that the sharing economy made life more convenient and efficient (83 per cent), was better for the environment (76 per cent), built a stronger community (78 per cent) and provided more fun than engaging with more traditional companies (63 per cent) (PWC, 2015). In addition, adoption of collaborative consumption services has also been shown to be driven by familiarity, service quality, trust and utility (Möhlmann, 2015). It has also been proposed that consumers are attracted by the social benefits the sharing economy might provide. Guests of Airbnb, for example, experience community-focused and social atmosphere at their host’s house, and even gain local connections with the host’s help (Kim et al., 2015).

A literature review showed that studies on the sharing economy can be divided into two categories, organizational-level studies and individual-level studies, with the former being

predominant (e.g. Lee et al., 2018; Breidbach and Brodie, 2017). The majority of organizational-level studies have been conceptual and qualitative in nature and focused on proposing business models of the sharing economy and discussing their applications to different industrial sectors (e.g. Benoit et al., 2017; Binninger et al., 2015; Choi et al., 2014). However, individual-level studies on the sharing economy have not received commensurate scholarly attention, with a few notable exceptions empirically examining the motivating factors of users' intention to participate in the sharing economy (e.g. Hamari et al., 2015; Möhlmann, 2015; Rayle et al., 2016). Furthermore, few studies have investigated how consumers are motivated to accept and adopt ridesharing application (RA). While the research on the sharing economy has started to emerge (e.g. PWC, 2015; Puschmann and Alt, 2016) , and a scientific understanding of the phenomenon is still evolving (Lee et al., 2018) there still remains a dearth of understanding as to why people participate in collaborative consumption (Hamari et al., 2015), particularly in geographically dispersed markets such as Australia and New Zealand.

This study bridges these research gaps by systematically examining the effects of perceived benefits (e.g. perceived usefulness and perceived ease of use) and social commerce (e.g. word of mouth communication) on user's attitude and their intention to participate in the sharing economy. Furthermore, this study draws on a number of theoretical model and framework including the extended valence framework (Kim et al., 2009), consumer innovation adoption models (Saaksjarvi, 2003; Lee, 2012), the theory of planned behaviour (Ajzen, 1991; Hsu and Chiu, 2004; Pavlou et al., 2006) and the technology acceptance model (TAM) (Wang et al., 2006) to systematically examine the inhibiting, motivating, and technological factors affecting users' intention to participate in the sharing economy. The study also aims to examine large

scale collaborative consumption data across UberX users from Australia and New Zealand – two countries that share similar cultural values and norms. This study therefore sets forth to empirically investigate factors that affect consumer adoption of ridesharing applications and provides significant theoretical underpinnings that contributes to the emerging literature on the sharing economy through the lens of technology acceptance. The following sections of this paper consist of literature review and hypothesis development, methodology, result, discussion, implications and future research directions.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1. Research on the sharing economy**

The sharing economy services are no longer a niche market but an emerging and profitable one that attracts millions of users and huge investments from businesses (Möhlmann, 2015). These services have permeated every aspect of our personal lives, from transportation and accommodation to entertainment (Horpedahl, 2015). In the context of shared mobility, P2P car rental is a popular collaborative consumption practice: platform providers (e.g. Drivy and GetAround) have developed online marketplaces that allow car owners (peer service providers) to rent out their private vehicle to other drivers (consumers) for a limited period of time (e.g., Münzel et al., 2017). The collaborative consumption practice chosen for this study is ridesharing (i.e. carpooling). Ridesharing has been defined as adding additional passengers to a pre-existing trip (Benoit et al., 2017; Davidson et al., 2018). Uber is essentially a ridesharing application (RA) or a mobile application provided by a transportation network company to order a car ride online. From a consumer perspective, RAs are attractive because they offer lower prices, better accessibility, great flexibility, ease of use and “a user focused

mission” including transparency and interactive communication (Dredge and Gyimóthy, 2015; Wallsten, 2015).

A review of literature showed that previous studies can be loosely classified into two types: organizational-level studies and individual-level studies. Organizational-level studies focuses on proposed business models of the sharing economy and discussed their applications to different industrial sectors (e.g. Binninger et al., 2015; Choi et al., 2014) or motivations and barriers for adopting the sharing economy business model in addition to its potential effects on traditional business (e.g. Denning, 2014; Nica and Potcovaru, 2015; Pedersen and Netter, 2015). However, it is noted that individual-level studies on the sharing economy remain scant (Lee et al., 2018). Among the few existing studies, the majority have explored the motivating factors of participating in the sharing economy. Extrinsic and intrinsic benefits were found to positively influence user participation in the sharing economy (e.g. Hamari et al. 2015).

## **2.2. Theory of Planned Behaviour (TPB) and Technology acceptance model (TAM)**

One of the most widely used conceptual frameworks for theorizing why users accept or reject a certain information technology (IT) is the technology acceptance model (TAM) (Wang et al., 2006). TAM includes a concise structure with perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989), which is popular for its understandability and simplicity (King and He, 2006). Consumer perceived ease of use (PEOU) had been seen as an important factor to influence consumer’s adoption of innovation. Davis (1989) defines PEOU as the degree to which a person believes that using a particular system or innovation would be free of effort. This construct reflects users’ subjective assessments of a system or innovation, which may be representative of objective reality. Innovation acceptance will suffer if users do not see a

system or innovation as easy to use (e.g., Davis, 1989). A large number of studies have embraced TAM as a fundamental theoretical framework, and some have extended TAM by adding specific variables to different subjects such as perceived playfulness to World Wide Web (Moon and Kim, 2001), social factors to online gaming (Hsu and Lu, 2004), perceived enjoyment to hedonic information systems (Van der Heijden, 2004) and perceived risk and trust to online payment (Yang et al., 2015). Similarly, derived from the same theory of reasoned action (TRA) with TAM, the theory of planned behavior (TPB) (Ajzen, 1991) explains behavior intention by paying more attention to attitude, subject norm and perceived behavior control in an organization setting. In addition, by introducing social (such as word of mouth communications) and individual cognitive variables (e.g. PEOU) , the extended or decomposed TPB models explain much more of users' intention than TPB and TAM do (Hsu and Chiu, 2004; Pavlou et al., 2006). Therefore, individual factors are crucial in enhancing the explanatory power of an acceptance model, especially in the market setting of personal information technology such as RA. For the purpose of this study and from the consumer's view, the higher perceived ease of use and perceived usefulness will cause a more positive attitude toward service innovation, thus increasing consumer adoption:

**H<sub>1</sub>.** Consumer PU of service innovation is positively related to consumer attitude toward service innovation.

**H<sub>2</sub>.** Consumer PEOU of service innovation is positively related to consumer attitude toward service innovation.

### **2.3. Communal Sharing and Consumer word of mouth**

Ridesharing practices among family and friends are also used to illustrate “online-facilitated offline sharing” (Belk, 2014, p. 15) or “Internet-facilitated sharing” (Belk, 2014b, p. 1596), as well as commons-based peer production (Benkler and Nissenbaum, 2006). Benkler (2004) also argued that “sharing nicely” is a pro-social practice, but one that relies on the economic system to collaborate and produce wealth within communities. This kind of social relationship has been labeled “communal sharing” because it involves kindness, altruism, love, cooperation, collectivism and shared identity (Fiske, 1992). In a communal style, participants ideologically associate collaborative consumption with a social exchange opportunity (e.g. keeping company). As such, the communal style is more likely performed by the participants who have had previous experience in creating pro-social relationships through collaborative consumption and who are concerned with belonging to a community (i.e. in particular, the original ridesharing community). As a collaborative consumption practice, RAs such as Uber noted significant business growth from word-of-mouth (WOM) by customers, in particular 34 percent of new customers used Uber based on peer recommendations (Rayle et al. 2016). For instance, Uber’s referral program is also a communal sharing opportunity using WOM as a facilitator where the RA offers a free ride to both a referrer and a new rider upon a successful referral. The program provides frequent riders the incentive to introduce new customers to the service and because of this, they were quick to tell everyone they knew about the company -referring friend-after-friend which only helped to fuel Uber’s revenue base.

As a form of social commerce, word-of-mouth (WOM) represents one of the most influential sources of information transfer by consumers (Keiningham et al. 2018). WOM both in an online and offline context, affects our behavior as consumers by creating awareness, changing



or confirming our opinions, creating interest in purchasing products and brands (Zuo et al., 2019; Pitt et al. 2018; Risselada et al., 2014) in addition to accelerating new purchases and adoption (Kumar et al., 2016; Libai et al., 2013) and encouraging repeat purchase (Iyengar et al., 2015). WOM, if positive, is highly effective for several reasons. First, it is customised, as the informer portrays the information in a relevant way to the recipient (Godes and Mayzlin, 2004; Trusov et al., 2009). Second, as a more unbiased and largely credible source of information, WOM recommendations saves the recipient time and money in identifying appropriate information (Hogan et al., 2004). Third, at least if offered through informal sources, it is independent, as the informer has no vested interest in the sale of the service, which adds to its credibility (e.g., Hewett et al., 2016). Given its non-commercial nature, WOM communication is viewed with less scepticism than firm-initiated promotional efforts (Godes and Mayzlin, 2004). Therefore, as part of social exchange opportunity, consumer's WOM is predicted to relate positively to consumer attitude toward service innovation:

**H<sub>3</sub>.** Consumer's WOM is positively related to consumer attitude toward service innovation.

#### **2.4. Behavioural intention**

Mathur (1999) showed that adoption of an innovation involved both cognitive (awareness and interest) and behavioral (trial and adoption) steps. According to Reasoned Action Theory, behavior is determined by intentions, which are in turn determined by attitudes and subjective norms (Fishbein and Ajzen, 1980). The relationship between attitude and behavioral intentions has been widely examined and supported. Meta-analysis, combining samples of over 10,000 participants, supports the strong attitude-intention-behavior linkage

(Kim and Hunter, 1993). RAs such as Uber is perceived as a service innovation and transport option that serves previously unmet demand for fast, flexible and convenient mobility in urban areas (e.g. Rayle et al., 2016). Within the context of Uber and Airbnb, Yang et al (2017) find that consumers' perceived confidence and social benefits result in commitment and positive behavioural intention toward the sharing-economy services. Based on the theoretical expectations and empirical findings, it is expected that consumer attitude toward service innovation will positively influence consumer's intention to use service innovation:

**H<sub>4</sub>.** Consumer attitude toward service innovation is positively related to consumer's intention to use service innovation.

## **2.5. Consumer attitude toward the advertisement**

Advertising can act as a powerful representational tool, and having marginalized groups represented in mainstream advertising can have a profound effect amongst minority consumers seeking acceptance and validation. Attitude towards the Advertisement is defined as "a learned predisposition to respond in a favourable or unfavourable toward advertising in general" (MacKenzie and Lutz, 1989, p.53). Mitchell and Olson (1981) and Shimp (1981) have introduced and suggested the important role that attitudes towards the advertisement construct plays in understanding advertising effectiveness.

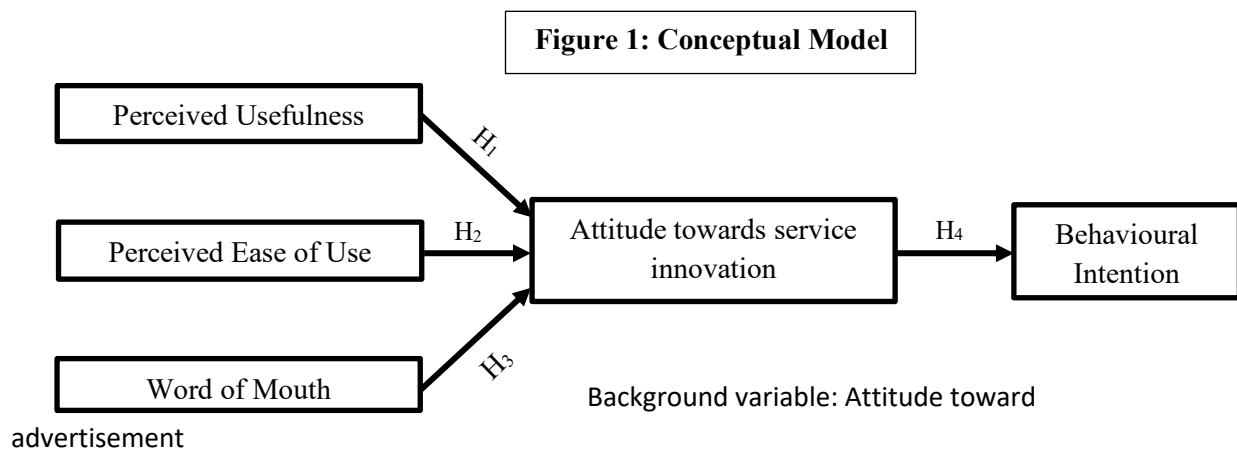
Haley and Baldinger (2000) suggested that positive affect (e.g. one's propensity to experience positive emotions and interact with others) towards an advertisement may be one of the best indicator to determine advertising effectiveness. This notion is supported by a number of

empirical studies which have found positive affect to be a useful measure of advertising effectiveness relating to brand attitudes and perceptions (Biehal et al., 1992; Shimp, 1981), affective responses (Batra and Ray 1986; Gelb and Pickett 1983; Kim et al., 2012). In addition, empirical work by Mitchell and Olson (1981) found evidence of the mediating role of the attitude towards the advertisement construct when results their experiment concluded that they were able to better predict brand attitude and behavioural intention if attitude towards the ad was taken in consideration, together with beliefs about certain product attributes. Similarly, using a classical conditioning perspective, Shimp (1981) suggested as consumers are exposed to products in the advertisement which are portrayed in a manner in which the consumer perceives it as appealing or attractive (e.g. with use of pleasant stimuli such as music or a likeable character), these positive perceptions become conditioned over time and are eventually transferred to the brand that represents the product/advertisement.

In short, a positive affective response through a process of conditioning will not be just for the ad, but also to the branded product that is the subject of the ad (Gelb and Pickett 1983; Shimp 1981). Building on the existing literature, the study investigates consumer attitude toward the advertisement as a moderator on the relationships hypothesised ( $H_1$  to  $H_4$ ) in the conceptual model. Therefore, it is hypothesized that:

**H<sub>5</sub>:** Consumers' attitude toward the advertisement will moderate the relationships hypothesised in  $H_1$  to  $H_4$ .

Based on the above discussion, Figure 1 shows the antecedents and consequence of consumer attitude toward service innovation as a conceptual model.



### 3. STUDY 1

#### 3.1. Method

Study 1 tests hypothesis 1-5 based on Australian samples. The survey instrument consists of seven sections and was developed using established scales. First section included a real life printed advertisement of UberX as the survey stimulus followed by the screening questions to examine the brand familiarity (Becker-Olsen and Hill, 2006) and usage of UberX service. Second section measured perceived usefulness of UberX service (Barabino et al., 2012; Swan and Bowers, 1998). Third section measured perceived ease of use (PEOU) of UberX service (Kraft et al., 2005). Fourth section measured word of mouth of Uber service innovation (Widianti et al., 2015). Fifth section measured respondents' attitudes towards service innovation of UberX service (Lee, 2012). The next section measured respondents' behavioural intention (Bansal et al., 2004). Then, the respondents' attitude toward an Uber advertisement was measured (Lee, 2012). The respondents' demographics were asked in the final section.

All items are measured on a five-point Likert scale with 1 representing “strongly disagree” and 5 representing “strongly agree”.

Due to the Internet-savvy target audience of UberX users, an online survey with assistance from a market research company was employed for data collection (e.g., Lee et al, 2018). The market research company sent the survey link to a pool of consumers with random sampling. In addition to recording their past usage of UberX services, respondents were screened and limited to those who scored 3 and above on the five point Likert scale for brand familiarity (Becker-Olsen and Hill, 2006). A higher level of brand familiarity score has been considered in this research with the notion that the consumers who are not familiar with UberX may lack the understanding of the ridesharing services and thus may provide inappropriate responses to the survey questions. Moreover, past studies suggest that compared to familiar brands, unfamiliar brands have lower advertisement effectiveness and faster wear out (Campbell and Keller, 2003). Therefore, it was imperative to control the brand familiarity as this research examines the moderating influence of the consumers’ attitude toward advertisement. The data collection took approximately four weeks, covering both weekdays and weekends. A total of 295 valid and useable responses were considered completed, valid and useable for study 1. A brief overview of the sample profile is presented in Table 1.

**Table 1: Profile of respondents**

Characteristics	Categories	Australia (n=295)	New Zealand (n=278)
		Percent	Percent
Usage status	User	49.0	49.0
	Non-user	51.0	51.0
Gender	Male	52.5	53.6
	Female	47.5	46.4
Age	18-24	21.7	20.5
	25-34	27.1	32.7
	35-44	13.2	23.7
	45-54	11.2	14.0
	55-64	15.6	7.2
	65 and above	11.2	1.8
Education	Secondary/High School	21.0	8.6
	Diploma/Certificate	29.2	27.0
	Undergraduate Degree	35.3	43.2
	Postgraduate Degree	14.2	21.2
Income (AUD/NZD)	20,000 and under	11.5	10.4
	20,001 – 45,000	22.4	13.7
	45,001 – 60,000	15.3	20.1
	60,001 – 75,000	10.8	16.2
	75,001 – 90,000	11.5	8.6
	90,000 – 110,000	10.2	7.6
	110,001 – 150,000	9.5	14.7
	150,000 and above	6.4	3.6
	Not sure/Prefer not to say	2.4	1.4
Occupation	Student	14.6	13.7
	Professional	19.3	27.0
	Business	7.8	10.1
	Education	4.7	5.0
	Medical	2.4	1.5
	Information Technology	6.1	5.4
	Design	0.3	0.7
	Executive	2.7	18.6
	Home Maker	9.5	8.3
	Skilled Worker	7.1	4.0
	Self- employed	3.7	1.4
	Retired	7.5	2.9
	Others	14.2	1.4

An Exploratory Factor Analysis (EFA) was conducted to ensure the unidimensionality of each variable. Each scale has a satisfactory Cronbach alpha score (more than 0.70) to prove the data has a strong reliability (Nunnally, 1978). Structural Equation Modelling (SEM) was used to test the conceptual model and hypothesised relationship. Data were analysed using IBM SPSS Statistics 25 and AMOS 25. Several assumptions for the SEM were checked. For example, the Variance Inflation Factor (VIF) were below 3.0 (Hair et al., 2010) that assured the absence of multicollinearity. Furthermore, Common Method Bias (CMB) was examined with Harman's (1967) one factor test whereby an exploratory factor analysis was run on all the items of the six variables of this research. The unrotated principal components factor analysis indicated a multiple factor solution and a first-factor variance provide a value of less than 0.50 and so CMB is not a legitimate threat to the validity of the research (e.g., MacKenzie and Podsakoff, 2012).

The two step procedure (Anderson and Gerbing, 1988) was followed for testing the conceptual model and hypotheses. In this purpose, the factor structure was assessed through measurement model, which were respecified based on item reliability, factor loadings, standardized residuals, and modification indices. The internal consistency, convergent validity, and the discriminant validity were examined under the measurement model. The internal consistency of the constructs were assessed with the composite reliability (CR) of a value greater than 0.70 (Hair et al., 2010). An Average Variance Extracted (AVE) value greater than 0.50 was considered for the convergent validity (Malhotra, 2010). Furthermore, discriminant validities of the constructs were achieved once the square root of the AVE values are higher than the pair-wise inter-construct correlations.

Next, the model fit was assessed and postulated relationships were tested through a structural model. The adequacy of model fit was examined through the following five goodness-of-fit indices (Hu and Bentler, 1999; Barret, 2007):  $\chi^2/df$ , Standardized Root-Mean-Square Residual (SRMR), Root-Mean-Square Error of Approximation (RMSEA), Comparative Fit Index (CFI) and Tucker–Lewis index (TLI). As suggested by Kline (2011), Tucker–Lewis index (TLI) and the comparative fit index (CFI) were assessed on the threshold values of 0.90, whereas the maximum acceptable value for the root mean square error of approximation (RMSEA) was 0.08. In addition, the ideal  $\chi^2/df$  value was assessed as less than 3 (Kline, 2011) and the benchmark for Standardised Root Mean Residual (SRMR) was less than 0.08 (Hu and Bentler, 1999).

### 3.2. Results

Then the reliability and validity of the constructs were tested by running the confirmatory factor analysis, optimizing the measurement model and purifying the scale items. Two items from perceived usefulness were removed due to high modification indices. The measurement model resulted good fit with  $\chi^2 = 384.00$ ,  $df = 141$ ,  $\chi^2/df = 2.73$ ; RMSEA = 0.07, SRMR = 0.04, CFI = 0.95, and TLI = 0.94. The model further provided satisfactory composite reliabilities, convergent and discriminant validities for the constructs (Table 2). A summary of the factor loading, AVE and composite reliabilities for the construct measure is presented in Table 7.



**Table 2: Validity measure for study 1 and 2**

	Study 1					Study 2				
	1	2	3	4	5	1	2	3	4	5
1. Purchase intention	<b>0.88</b>					<b>0.91</b>				
2. Perceived usefulness	0.51	<b>0.80</b>				0.40	<b>0.77</b>			
3. Perceived ease of use	0.57	0.48	<b>0.79</b>			0.36	0.67	<b>0.79</b>		
4. Word of mouth	0.74	0.47	0.68	<b>0.92</b>		0.46	0.54	0.81	<b>0.92</b>	
5. Attitude toward service innovation	0.84	0.58	0.54	0.80	<b>0.85</b>	0.43	0.56	0.74	0.84	<b>0.87</b>

Note: Figures in the diagonal (values given in bold) are the square root of the Average Variance Extracted (AVE); those below the diagonal are the correlations between the constructs.

The structural model also achieved good fit with  $\chi^2 = 395.86$ ,  $df = 144$ ,  $\chi^2/df = 2.75$ ; RMSEA = 0.07, SRMR = 0.05, CFI = 0.95, and TLI = 0.94 (Table 3). The results show that perceived usefulness and word of mouth have significant positive impact on ATSI. Thus, H<sub>1</sub> and H<sub>3</sub> are supported. Furthermore, H<sub>4</sub> is supported as consumers' ATSI has a significant positive impact on purchase intention. However, against the expectation (H<sub>2</sub>), perceived ease of use did not result in positive ATSI (Table 4).

**Table 3: Structural model results**

Sample	$\chi^2$	df	$\chi^2/df$	CFI	SRMR	RMSEA
Australia (n=295)	395.86	144.00	2.75	0.95	0.05	0.07
Australia user (n=145)	347.78	144.00	2.42	0.90	0.07	0.08
Australia non-user (n=150)	268.95	144.00	1.87	0.95	0.06	0.07
New Zealand (n=278)	346.30	112.00	3.09	0.94	0.06	0.08
New Zealand user (n=135)	129.84	112.00	1.16	0.99	0.06	0.03
New Zealand non-user (n=143)	176.35	112.00	1.58	0.96	0.07	0.06

The sample was divided into two sub-samples with a median score of 4.25 for the attitude toward the advertisement (AtAd). A model level comparison did not show any significant difference between the two sub-samples ( $\Delta\chi^2 = 3.948, \Delta df = 4, p = 0.413$ ). Next, a path level comparison was conducted which showed that relationship postulated in H<sub>1</sub> (Perceived usefulness → ATSI) was stronger for the sub-sample with low AtAd. The strength of the relationship was invariant for H<sub>2</sub>, H<sub>3</sub>, and H<sub>4</sub> across two sub-samples.

**Table 4: Summary of the hypothesis testing**

		Relationship		$\beta$	t-test	P-value
Study 1	Australia (n=295)	H <sub>1</sub>	Perceived usefulness → ATSI	0.26	5.341	***
		H <sub>2</sub>	Perceived ease of use → ATSI	-0.05	-0.847	0.397
		H <sub>3</sub>	Word-of-mouth → ATSI	0.72	11.402	***
		H <sub>4</sub>	ATSI → Purchase intention	0.85	17.718	***
	Australia UberX user (n=145)	H <sub>1</sub>	Perceived usefulness → ATSI	0.49	4.362	***
		H <sub>2</sub>	Perceived ease of use → ATSI	-0.26	-1.623	0.105
		H <sub>3</sub>	Word-of-mouth → ATSI	0.69	5.206	***
		H <sub>4</sub>	ATSI → Purchase intention	0.78	9.334	***
	Australia UberX non-user (n=150)	H <sub>1</sub>	Perceived usefulness → ATSI	0.26	3.612	***
		H <sub>2</sub>	Perceived ease of use → ATSI	-0.03	-0.371	0.711
		H <sub>3</sub>	Word-of-mouth → ATSI	0.67	8.813	***
		H <sub>4</sub>	ATSI → Purchase intention	0.84	13.016	***
Study 2	New Zealand (n=278)	H <sub>1</sub>	Perceived usefulness → ATSI	0.21	4.329	***
		H <sub>2</sub>	Perceived ease of use → ATSI	-0.04	-0.598	0.55
		H <sub>3</sub>	Word-of-mouth → ATSI	0.77	11.407	***
		H <sub>4</sub>	ATSI → Purchase intention	0.86	15.726	***
	New Zealand UberX user (n=135)	H <sub>1</sub>	Perceived usefulness → ATSI	0.07	0.933	0.351
		H <sub>2</sub>	Perceived ease of use → ATSI	0.08	1.054	0.292
		H <sub>3</sub>	Word-of-mouth → ATSI	0.8	7.298	***
		H <sub>4</sub>	ATSI → Purchase intention	0.75	7.19	***
	New Zealand UberX non-user (n=143)	H <sub>1</sub>	Perceived usefulness → ATSI	0.14	1.852	0.064
		H <sub>2</sub>	Perceived ease of use → ATSI	-0.13	-1.186	0.236
		H <sub>3</sub>	Word-of-mouth → ATSI	0.8	6.046	***
		H <sub>4</sub>	ATSI → Purchase intention	0.8	7.86	***

Significance Indicators: † p < 0.100, \* p < 0.050, \*\* p < 0.010, \*\*\* p < 0.001

The conceptual model was also compared across the UberX user and non-user in Australia. The measurement model provided validities for both subsamples (Table 5) The model did not significantly differ across the two groups ( $p = 0.265$ ). Path level comparison showed that the positive relationship between perceived usefulness and ATSI ( $H_1$ ) was stronger among users than the non-users. Otherwise, the rest of the findings for  $H_2$ ,  $H_3$ , and  $H_4$  were invariant between the UberX users and non-users in Australia.

Next, the moderating influence of AtAd was examined for the UberX users in Australia. The conceptual model was significantly different between high and low AtAd sub-samples ( $\Delta\chi^2 = 8.52$ ,  $\Delta df = 4$ ,  $p = 0.074$ ). The path level comparison showed that the positive relationship between word of mouth and ATSI was only significant for the high AtAd sub-sample.

Finally, conceptual model was not significantly different while compared between the high and low AtAd sub-samples within UberX non-users in Australia ( $\Delta\chi^2 = 2.19$ ,  $\Delta df = 4$ ,  $p = 0.701$ ). However, the positive relationship between perceived usefulness and ATSI ( $H_1$ ) was only significant for the low AtAd sub-sample. The significant influences of AtAd on the hypothesised relationships are presented in Table 6.

**Table 5: Validity measures for user and non-user subsamples**

Australian user sample	CR	AVE	1	2	3	4	5
1. Purchase intention	0.90	0.70	0.84				
2. Perceived usefulness	0.86	0.60	0.62***	0.78			
3. Perceived ease of use	0.81	0.51	0.57***	0.71***	0.71		
4. Word of mouth	0.92	0.80	0.66***	0.63***	0.81***	0.89	
5. Attitude toward service innovation	0.88	0.65	0.77***	0.73***	0.63***	0.77***	0.81
Australian non-user sample	CR	AVE	1	2	3	4	5
1. Purchase intention	0.94	0.79	0.89				
2. Perceived usefulness	0.89	0.67	0.52***	0.82			
3. Perceived ease of use	0.87	0.63	0.43***	0.44***	0.79		
4. Word of mouth	0.93	0.82	0.67***	0.42***	0.48***	0.90	
5. Attitude toward service innovation	0.92	0.73	0.84***	0.51***	0.39***	0.76***	0.86
New Zealand user sample	CR	AVE	1	2	3	4	5
1. Purchase intention	0.88	0.71	0.84				
2. Perceived usefulness	0.68	0.52	0.28*	0.72			
3. Perceived ease of use	0.89	0.68	0.40***	0.28*	0.82		
4. Word of mouth	0.90	0.74	0.63***	0.28*	0.42***	0.86	
5. Attitude toward service innovation	0.83	0.62	0.75***	0.24*	0.42***	0.85***	0.79
New Zealand non-user sample	CR	AVE	1	2	3	4	5
1. Purchase intention	0.88	0.71	0.85				
2. Perceived usefulness	0.85	0.60	0.21*	0.77			
3. Perceived ease of use	0.85	0.59	0.37***	0.24*	0.77		
4. Word of mouth	0.91	0.76	0.56***	0.15	0.69***	0.87	
5. Attitude toward service innovation	0.84	0.64	0.81***	0.22*	0.46***	0.74***	0.80

Note: Figures in the diagonal (values given in bold) are the square root of the Average Variance Extracted (AVE); those below the diagonal are the correlations between the constructs.

## 4. STUDY 2

### 4.1. Method

Study 2 tests hypothesis 1-5 based on New Zealand samples. The survey questionnaire design, data collection and data analysis technique followed the same procedure specified in study 1. A total of 278 valid and useable responses were considered completed, valid and useable for study 2 (Table 1).

### 4.2. Results

An EFA with Principal component method and Varimax rotation assured the unidimensionality of the constructs. Scale item loadings were satisfactory and so all items were retained. The sample adequacy, reliability, and the Bartlett's test of sphericity were satisfactory as well.

In the process of confirmatory factor analysis, two items from perceived usefulness, and one item each from ATSI and purchase intention were removed due to high modification indices. The measurement model resulted acceptable fit with  $\chi^2 = 335.540$ ,  $df = 109$ ,  $\chi^2/df = 3.07$ ; RMSEA = 0.08, SRMR = 0.05, CFI = 0.95, and TLI = 0.94. The model further provided satisfactory composite reliabilities, convergent and discriminant validities for the constructs (Table 2).

The structural model also achieved acceptable fit with  $\chi^2 = 346.295$ ,  $df = 112$ ,  $\chi^2/df = 3.09$ ; RMSEA = 0.08, SRMR = 0.06, CFI = 0.94, and TLI = 0.93. Consistent with the findings in study 1, the H<sub>1</sub>, H<sub>3</sub>, and H<sub>4</sub> are supported and H<sub>2</sub> is rejected (Table 4).

The moderating influence of AtAd was examined at both model level and path level. The respondents were divided into high and low AtAd samples based on a median score of 4.00.

The conceptual model was significantly different between the two sub-samples ( $\Delta\chi^2 = 9.446$ ,  $\Delta df = 4$ ,  $p = 0.051$ ). The path level comparisons showed that that relationship postulated in  $H_1$  (Perceived usefulness  $\rightarrow$  ATSI) was stronger for the sub-sample with high AtAd. The strength of the relationship was invariant for  $H_2$ ,  $H_3$ , and  $H_4$  across two sub-samples.

**Table 6: Moderating role of attitude toward the advertisement**

		Relationship	Path coefficient ( $\beta$ )		$\Delta \beta$	P-value for the difference
			High AtAd	Low AtAd		
Study 1	Australia (n=295)	$H_1$	0.106	0.303***	-0.197	0.07
	Australia UberX user (n=145)	$H_3$	0.106	0.303***	-0.197	0.07
	Australia UberX non-user (n=150)	$H_1$	0.091	0.268**	-0.177	0.205
Study 2	New Zealand (n=278)	$H_1$	0.339**	0.03	0.309	0.006
	New Zealand UberX user (n=135)	$H_1$	0.436*	-0.161	0.597	0.004
		$H_3$	0.549**	0.764***	-0.215	0.074
	New Zealand UberX non-user (n=143)	$H_1$	0.346*	0.039	0.307	0.068
		$H_2$	0.28	-0.261†	0.540	0.125
	$H_3$	0.346*	0.039	0.307	0.068	

Significance Indicators: †  $p < 0.100$ , \*  $p < 0.050$ , \*\*  $p < 0.010$ , \*\*\*  $p < 0.001$

Following the study 1, the New Zealand sample was divided into user and non-user subsamples. The measurement model provided validities for both subsamples (Table 5). However, the conceptual model was found significantly different ( $p = 0.092$ ) across the UberX user and non-user in New Zealand. The positive relationship between perceived usefulness and ATSI ( $H_1$ ) was significant ( $p = 0.064$ ) only for the non-user sample. Similar to study 1, the findings for  $H_2$ ,  $H_3$ , and  $H_4$  were invariant across groups in study 2.

Then, the moderating influence of AtAd was examined for the UberX users in New Zealand. The conceptual model was significantly different between high and low AtAd sub-samples ( $\Delta\chi^2 = 12.816$ ,  $\Delta df = 4$ ,  $p = 0.012$ ). In addition, the positive relationship between perceived usefulness and ATSI was stronger for the high AtAd sub-samples. By contrast, the positive relationship between word of mouth and ATSI ( $H_3$ ) was stronger for the low AtAd sub-sample.

The conceptual model was also significantly different between high and low AtAd sub-samples ( $\Delta\chi^2 = 11.299$ ,  $\Delta df = 4$ ,  $p = 0.023$ ) within UberX non-users in New Zealand. The path level comparison showed that (i) the positive relationship between perceived usefulness and ATSI ( $H_1$ ) is stronger for high AtAd subsample, (ii) the negative relationship between perceived ease of use and ATSI ( $H_2$ ) was only significant for low AtAd subsample, and (ii) the positive relationship between word of mouth and ATSI ( $H_3$ ) is only significant for low AtAd subsample (Table 6).

**Table 7: Scale items for construct measure**

Latent variables with indicators	Australia			New Zealand		
	Factor loading	AVE	CR	Factor loading	AVE	CR
Perceived usefulness		0.78	0.87		0.59	0.85
Convenience of the service (mobile app is easy to use).	0.80			X		
Punctuality of the service (service is delivered on time).	0.83			0.75		
Affordability of the service (service is reasonably priced).	0.80			X		
Availability of the service (service covers most major cities and inner suburbs).	0.74			0.78		
Security of the service (service is safe).	X			0.82		
Driver's knowledge of travel routes (service is efficient).	X			0.72		
Perceived ease of use		0.63	0.87		0.63	0.87
I can easily make a booking for an UberX service.	0.73			0.73		
I have the resources available to book an UberX service.	0.70			0.70		
I expect that I will be able to book for an UberX service conveniently and without any hassles.	0.87			0.87		
If I wanted to, I would not have any problems with booking an UberX service.	0.85			0.86		
Word of mouth		0.84	0.94		0.84	0.94
I would speak positive things to others about UberX services in general.	0.88			0.88		
I would recommend UberX services to people who need my advice about a ride-sharing service.	0.93			0.93		
I would recommend UberX services to my friends and relatives.	0.94			0.94		
Attitude toward service innovation		0.73	0.91		0.75	0.90
I think UberX is a good mobile ride-sharing app.	0.81			X		
The UberX service makes me feel good.	0.85			0.84		
The UberX service is my first preference.	0.84			0.85		
I like the UberX service.	0.90			0.91		
Purchase intention		0.78	0.94		0.83	0.94
I would intend to purchase or use an UberX service.	0.90			0.90		
I would consider to purchase or use an UberX service.	0.80			X		
I would expect to purchase or use an UberX service.	0.91			0.91		
I would plan to purchase or use an UberX service.	0.92			0.92		

AVE = Average Variance Extracted, CR: Composite Reliability, X = Item deleted in the process of CFA



## 5. STUDY 3

### 5.1. Method

Study 3 examines the differences between Australian and New Zealand samples based on hypothesis 1-5. A multigroup SEM was employed to investigate difference between the two samples. A series of chi-square difference tests were conducted to check the model level and path level differences.

### 5.2. Results

The conceptual model was compared across the samples from Australia and New Zealand. The p-value of the chi-square difference test was not significant at model level ( $\Delta\chi^2 = 5.518$ ,  $\Delta df = 4$ ,  $p = 0.238$ ). Following this, path level comparisons were conducted. The positive relationship between perceived usefulness and ATSI ( $H_1$ ) was stronger for the Australian sample. The results for the relationships postulated in  $H_2$ ,  $H_3$ , and  $H_4$  were invariant across two countries.

Next, the model was compared across UberX users in Australia and New Zealand. The model differs significantly across groups ( $\Delta\chi^2 = 10.041$ ,  $\Delta df = 4$ ,  $p = 0.04$ ) due to the converse results in  $H_2$ . The hypothesised relationship between perceived ease of use and ATSI was negative for Australia sample ( $\beta = -0.268$ ) and positive for New Zealand sample ( $\beta = 0.077$ ). In addition, the positive relationship between perceived usefulness and ATSI ( $H_1$ ) was stronger for the Australian sample. Results for the relationships hypothesised in  $H_3$ , and  $H_4$  were invariant across the groups.

Finally, the model was compared across the non-user sample for the two countries. The model level comparison showed non-significant difference ( $\Delta\chi^2 = 8.722$ ,  $\Delta df = 4$ ,  $p = 0.068$ ). The path level comparison showed that the positive relationship between perceived usefulness and ATSI ( $H_1$ ) was stronger for Australia's non-user sample. The three other hypotheses were not significantly different across the non-user samples.

## 6. DISCUSSION

This research examines the factors that influence the consumers' attitude toward and intention to use ridesharing (i.e., UberX) services.

### 6.1. Perceived usefulness and ATSI

The results show that consumers' perceived usefulness has a significant positive impact on the consumers' attitude toward UberX. This result is consistent with the findings of similar previous studies on service innovation (e.g., Lee et al., 2018). The benefits provided by UberX services influence the cognitive (e.g., good mobile app) and affective (e.g., feel good) aspects of the consumers' attitude. Park et al. (2014) found that a product's perceived usefulness is a direct predictor of behavioural intention to use of the technology of interest. In relation to ridesharing, consumers' perceived usefulness has two primary effects: first, it encourages consumers to take more rides in the point-to-point transport market than they have previously. These rides grow the size of the point-to-point transport market in Australia and New Zealand because consumers are attracted to the services that either offer lower price or the different features that Uber currently offers. Second, price and service differences have seen consumers switch from other point-to-point transport services (such as taxis) to ridesharing, whereby the overall size of the market remains the same, however there may be

net benefits to society because of strong consumer gains (e.g., Rayle et al. 2016; Rempel, 2016; Geradin, 2016). There are several economic features of ridesharing platforms that make them attractive to buyers and sellers (For a review, see Alley, 2016; Einav et al., 2016).

## **6.2. Perceived ease of use and ATSI**

As a service innovation, Uber has an edge in safety through effective information dissemination, convenience through technological advancements in booking and GPS, and comfort through newer cars and performance conscious drivers (Uber, 2018). This research however does not find any significant positive relationship between the consumers' perceived ease of use and attitude toward UberX. In fact, the study deviates from the theoretical expectation established in the H<sub>2</sub> of this research. One plausible explanation to this counterintuitive finding lies in the conceptualisation of the construct. Theoretically, perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort" (Davis et al, 1989, p.320). Uber operates with mostly the same dynamics as the taxicab, but makes its users feel like they have a personal driver in the safety of their own vehicle, however do consumers find the usage of UberX services 'free of effort'? Compared to the taxicab and public transports, perhaps 'E-Hail' services such as Uber is perceived as a convenient service but not one that is necessarily "easy to use". This suggests that the ridesharing app would require more effort from the users, especially those who have a lower self-efficacy or are risk adverse towards using this type of service innovation. In addition, learning to use the Uber app and its functions (e.g. booking, review ratings,

navigation and payment) can in some cases appear quite cumbersome for both the user and the driver. On the other hand, being a passenger in a traditional taxi is a familiar experience for many around the world, with taxis filling important gaps in public transporting, supporting transport for those with disabilities, alongside participants and workers in the night-time economy. Therefore, within the specific context of this research, perceived ease of use does not result in a positive impact on the consumers' attitude toward UberX.

### **6.3. WoM and ATSI**

Uber's success and its concept of ridesharing have been driven largely by technology and more so by the power and reach of the social network (Breidbach and Brodie, 2017). Of particular importance are the social context and the word of mouth that positively influences the consumers' attitude toward UberX services. Uber's successful referral program is also a strong indication that the word of mouth portal is an extremely important entry point when promoting new or innovative services to customers, where the role of peer recommendations accounts for one-third of new users in trailing Uber services (Rayle et al. 2016). This finding validates the notion that word-of-mouth is a strong catalyst in influencing the consumers' acceptance of a new product or service (Godes and Mayzlin, 2004).

### **6.4. ATSI and purchase intention**

This research further validates the positive relationship between consumer attitude and intention within the context of UberX services. There are numerous past studies that have utilised the Theory of Reasoned Action to explain how consumers' attitude guides their

behavioural intention (e.g., Lee, 2012). It is known that attitude influences behavior; hence, the determinants of consumer attitude toward service innovation are key factors influencing consumer's adoption of service innovation, as well as the success of new service. As previously discussed, in the present study, two factors namely perceived usefulness and word of mouth with the service are shown to influence significantly consumer attitude toward UberX as a service innovation.

### **6.5. Moderating role of attitude toward advertisement**

Finally, this research investigates whether the consumers' AtAd has a differential effect on the relationship between ATSI and its antecedents/outcomes. The results show that AtAd moderates the positive relationship between perceived usefulness and ATSI. The result is consistent across study 1 and 2. Perhaps, the moderating role of AtAd might be explained in two ways. First, the survey stimulus used in this research described UberX services as the "Everyday cars for everyday use. Better, faster, and cheaper than a taxi". Second, the recent Uber advertisement campaigns such as 'Doors Are Always Opening' (Uber, 2018) promote the benefits offered by the Uber ridesharing services. Therefore, the positive relationship between perceived usefulness and attitude is influenced by the consumers' AtAd.

The moderating role of AtAd on the relationship between word-of-mouth and attitude is supported for UberX user samples in Australia and New Zealand. In particular, the positive relation is statistically significant for the users having low score in AtAd. This finding complies with the notion that new users receive the promo-code referred by existing Uber users and so the word-of-mouth plays a stronger role than the AtAd does in creating a positive attitude

toward the ATAS. In addition, the moderating role of AtAd has been supported for the non-user samples in New Zealand, but the results are not conclusive while compared with the non-user samples in Australia.

## **7. IMPLICATIONS**

### **7.1. Theoretical implications**

This research contributes into the marketing theory in several ways. First, the findings provide a better understanding of the factor that influences the consumer ATSI within the context of ridesharing services. Second, the relationship between attitude and intention has been validated and the moderating role of AtAd has been examined. Third, the results provide a better understanding on the consumers' attitude toward and purchase intention for service innovation within the context of UberX. These findings are expected to add values into the current scant empirical studies on the ridesharing services. In addition, this research tests and compares the conceptual model across two countries. Furthermore, the relationships are tested and compared between user and non-user samples both within and across the countries. Therefore, this research provides a rigour and robust results supported by relevant theoretical underpinnings.

### **7.2. Managerial implications**

The practitioners in UberX and other ridesharing services are expected to benefit from the findings of this research in several ways. First, they can emphasise on the factors that create positive attitude toward the service. Specifically, this research find that perceived usefulness and word-of-mouth are the two key indicators that influence the ATSI. Build on this notion, it

is imperative that marketing strategists for UberX and other ridesharing services emphasise on the perceived usefulness of the service. In particular, the benefits offered by their brands need to be integrated and communicated through advertising campaigns. Furthermore, the power of the word of mouth and peer recommendations need to be utilised in promotional strategies. For instance, the interaction between passenger and driver is a potential and interesting one to reflect upon for promotion. Uber themselves have collaborated with Spotify to allow passengers to choose what music to play in the car. Other concepts might include sharing information about drivers to passengers, allowing passengers to request a 'quiet ride' or to request particular routes. Other branding initiatives could see the service provider expand its referral program by increasing the span of promo codes to incentivise existing customers and to target new ones. Furthermore, this marketing strategy will allow for specific efforts to be placed on converting the non-users to users. The ridesharing service managers may also improve the consumers' perceived ease of use of the services. Marketing efforts need to be placed on easing the usage of the UberX mobile app as well as communicating the perceived ease of use of the app. When designing a service innovation, managers should consider the ease of use of target consumers, including the service process and operation of necessary facilities. This suggests that better understanding of target consumers and user-oriented process design will be very helpful in determining service innovation usage and adoption (Lee et al., 2018). For instance, in the case of reliance on a credit card for payment that excludes the 'unbanked' could be responded by providing prepaid stored-value money card or gift cards which could be one way of addressing this group. More broadly there are potential ways these services could be used to support the mobility of groups who suffer from low-access to public transport. Furthermore, utilisation of word-of-mouth and personalised e-guides and instructions can form part of the service user interface which would help curb

the negative perception around app usage and complexity, and thus increase consumer confidence.

## **8. LIMITATIONS AND FUTURE RESEARCH**

This research has several limitations that need to be acknowledged and might be addressed in future. First, future research may compare the culturally different markets for validating the conceptual model and results. Second, understanding “inhibitors” of user intention to participate in sharing economy services is also important (Arli et al., 2018). While users have perceived participating in sharing economy services more economical, convenient, and enjoyable, potential risks, such as privacy risk and security risk, have deterred them from participating in such services. For instance, participating in the sharing economy often requires users to input detailed personal information which may be used for non-intended commercial activities (Dillahunt and Malone, 2015). In addition, there have been notable cases of rape, vandalism, and theft of using different sharing economy services such as Uber and Airbnb (Bleier, 2015). Therefore, it would be imperative to test whether the conceptual model of this paper varies across gender. Notwithstanding, with the focus of online-based survey and data collection with an app (Uber), future research may include eWOM into the research framework for a better understanding of consumers’ ridesharing attitude and intention (Zuo et al., 2019; Pitt et al. 2018). In addition, taking a probabilistic sampling would provide a better understanding of the consumer’s intention. Research may also examine the role of perceived value, perceived risk, trust in the platform, economic benefits, boycott/boycott, and consumer advocacy on attitude and intention for using Uber and similar ridesharing services to convert non-users to users. Further studies examining the moderating



role of 'consumer innovativeness', 'perceived service quality' 'perceived safety' is also suggested for a better understanding of the consumer-brand relationship. Nonetheless, Uber is facing fierce competitive pressure (Lyft, Olla, Grab etc.) and has closed its operation in some emerging markets recently (e.g., Singapore). Therefore, further research is warranted on how ridesharing franchises can build a long term and sustainable business model (e.g., Thaichon et al., 2019; Facca, 2013; Bordonaba-Juste and Polo-Redondo, 2008).

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