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Understanding Commuters' Attitudes and Satisfaction on the Attributes of Regular Taxis and TNVS in Metro Manila

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Abstract

The rise of transportation network vehicle services (TNVS), such as Grab and Uber, reduced the market share of taxis. The difference in consumer attitude towards both door-to-door services should be understood so management can ensure quality service for their consumers, and whether consumers are satisfied with their service. The current research sought to understand the difference in consumer attitude and consumer satisfaction across riders of regular taxi and TNVS. Applying Fishbein's Multi-attribute Model for consumer attitude and Kano Model for consumer satisfaction, survey questionnaires were distributed to 40 respondents aging 20 to 35 years old, and either residing or working in the cities of Makati, Manila, Mandaluyong, Quezon, Pasig, and Taguig. The research included 10 product attributes: safety of driving, driving skills, driver's attitude, safety features, vehicle condition, accessibility, mode of payment, costing, and value for money, and convenience. Results showed consumers place importance on safety of driving. Consumer attitude towards regular taxis range from neutral to positive attitude, while towards TNVS, positive to very positive attitude. Convenience satisfies consumers most. There is a significant relationship between consumer attitude and consumer satisfaction towards regular taxis. There are also significant differences on consumer attitude and consumer satisfaction across regular taxis and TNVS. The researchers recommend operators and drivers of both services to consider consumer attitude and satisfaction in developing a more strategic business model for them.

Keywords: *Grab, Uber, Taxi, Consumer Attitude, Consumer Satisfaction*

Introduction

The Philippine land transportation system, through the Land Transportation Franchising and Regulatory Board (LTFRB), has long been recognizing taxi as a legal and conventional public transport option (Paronda, Regidor & Napalang, 2016). In 2015, the Department of Transportation and Communications (DOTC) amended its Department Order 97-1097 to promote mobility amidst the changing transportation landscape, which paved the way for the entry and growth of Uber and Grab in the Philippines.

Uber is a transportation network company (TNC) founded by Travis Kalanick and Garret Camp in 2009 (Nistal & Regidor, 2016). Grab, on the other hand, was founded by Anthony Tan and Tan Hooi Lin revolutionizing the taxi industry with its pre-booking feature (Charoen, 2015). Currently, Uber is available in 58 countries including the Philippines, while Grab is currently operating in some Southeast Asian countries like the Philippines (Nistal & Regidor, 2016; Charoen, 2015).

The market share of taxi was significantly reduced due to the rapid growth and patronization of TNVS in some localities abroad (Wang, 2015). The popularity of these TNVS

can be attributed to its utilization of new technologies, such as, global positioning system navigation, mobile smartphones and social media, in their total delivery of services (Wang, 2015). According to Wang (2015), TNCs (i.e., Uber, Lyft and Sidecar) appeal to consumers in the U.S. due to some positive attributes like increased convenience, reliability, affordability and other positive attributes as compared with taxi industry services. With Uber gaining popularity in Sweden, Laurell and Sandström (2016) highlighted Uber's perceived competitive advantages through its innovative solutions. Uber offers enhanced services that could even challenge the existing structures in the transport sector down to its limits to gain competitive advantages (Laurell & Sandström, 2016).

Despite its adherence to policies, Uber's operations in the U.S. faced some dilemmas due to its peculiarity in terms of employment of drivers and their autonomy, its organizational structure, the vehicles and other infrastructures, and compliance to existing local regulations (Jordan, 2017). Future organizations, particularly those which will be using online-based technologies, may take a lead from the peculiarities of Uber's business model (Jordan, 2015). Moreover, Paul (2017) clarified the legal implications of Uber due to its alleged anti-trust violation by using a new form business transaction in the transportation sector that transcends to existing laws. For example, Uber drivers are not employed but delivering the services that the company promises (Paul, 2017). It also sets the prices, in which, a fix cut goes to the company without bargaining agreement with the drivers as a group (Paul, 2017).

In Canada, Ward (2016) studied about the impacts of TNCs on the riding experiences of persons with disabilities (PWD) and address looming accessibility concerns exploring existing policies for traditional and legitimate public transport options in Canada. Ward (2016) found that TNCs do not conform to existing policies concerning PWDs and that policy-making body in the transport sector should look into to address the needs. In contrast, Ranchordás (2017) explained the effect of social media (i.e., social media) and new technologies on public engagement in policy-making. Specifically, Uber utilized online petition in stirring citizen involvement to put forth their advantages involving public policy discussions (Ranchordás, 2017).

Meanwhile, in studying the taxi landscape in Thailand, Charoen (2015) argued that taxis have a bad reputation due to fraudulent acts and unwanted behavior of the drivers. Charoen (2015) noted that GrabTaxi's primary advantage is the use of app-based technology and it being the first to do so; hence Thais prefer TNC services over taxis for its convenience and security. Additionally, Ackaradejruangsri (2015) explained that GrabTaxi passengers and even taxi drivers are satisfied because of these attributes: 1) prompt ride, 2) sure ride, 3) safe ride, and 4) comfortable ride.

In the Philippines, TNVS are regarded to offer quality service, reliability, and, to some extent, affordability (Paronda et al., 2016; Nistal & Regidor, 2016). Taxi on the other hand lags behind those points (Paronda et al., 2016). In comparison, taxi is also perceived negatively by customers due to the innovative services of TNVS (Nistal & Regidor, 2016). Moreover, TNVS leverages on the efficiency of new technologies, which addresses common dissatisfaction from both the drivers and passengers in the taxi industry (Ackaradejruangsri, 2015). It becomes apparent that TNVS can contend with taxis.

The usage of the so-called Transportation Network Vehicles Services (TNVS) which operate under transport network companies (e.g., Grab and Uber) are becoming more common transportation option in Philippine cities nowadays, because of their door-to-door transport

services like the taxis (Nistal & Regidor, 2016). Grab has more than 52,000 drivers (Cayabyab, 2017), while Uber Philippines has nearly 67,000 drivers in the country as of August 2017 (Serapio, 2017) with large concentration in Metro Manila (Nistal & Regidor, 2016; Paronda et al., 2016). With its growing market in the Philippines, Grab now reached 45 million users generating about 2.5 million rides daily (Basilio, 2017). These statistics show how large the market share of TNVS is in the Philippines.

Researches on TNVS in foreign countries focused on price fixing (Paul, 2017), its impact to existing modes of transportation (Ackaradejruangsri, 2015; Charoen, 2015), its effect to institutions and innovations (Laurell & Sandström, 2016), online civic-movement for policy-making in the transportation industry and large-scale digital organization (Jordan, 2017; Ranchordás, 2017), appropriate services for PWDs (Ward, 2017); and in the local setting through the understanding of characteristics of TNVS and taxi services (Nistal & Regidor, 2016; Paronda et al., 2016). While there are varied researches concerning TNVS, there is still paucity of studies about this transportation segment, particularly in the Philippines. TNVS is still considerably a nascent industry in the country (Paronda et al., 2016); that there are few market studies conducted, especially looking at consumer attitudes and satisfaction.

The importance of understanding consumer attitudes provides the management to ensure that their services have positive impact to their customers (Dhume, Kamble & Raut, 2017; Arruda & Palmeira, 2016; Islam, 2015; Desai & Desai, 2013; Montolalu, 2013; Kim, 2012; Simová, 2012; Tabassum & Rahman, 2012). Researches on consumer attitudes are focused on showing how management can optimize the knowledge they have regarding their consumers' attitudes and behaviors in implementing their marketing strategies and proceeding with their business plans. Ultimately, creating a positive attitude among customers will also positively impact on consumer's sense of satisfaction.

Thus, the researchers sought to understand the phenomenon on consumers' changing preferences. The research sought to understand the difference in consumer attitude and consumer satisfaction across the riders of regular taxi and TNVS (i.e., Grab/Uber).

Specifically, the researchers explored the extent and type of association that exists between level consumer attitude and consumer satisfaction of selected riders of regular taxis and TNVS (i.e., Grab/Uber). The researchers also aimed to determine whether there was a significant relationship between the levels of consumer attitude and consumer satisfaction of the riders of regular taxi and TNVS (i.e., Grab/Uber). The study aimed to compare the difference in consumer attitude and consumer satisfaction of these door-to-door transport services to understand how to strategize in satisfying their consumers' needs and wants.

Kano Model of Consumer Satisfaction.

The current research employed the consumer satisfaction model developed by Kano, Seraku, Takahashi, and Tsuhi in 1984 (Lo, Shen & Chen, 2016). According to Lin and colleagues (2017), Kano's model has been used by scholars in distinguishing satisfying and dissatisfying attributes of a product. Kano model sets consumer requirements to help evaluate a certain product's attribute of it which will satisfy or dissatisfy a consumer (Lo et al., 2016). Kano used this theory to classify customer preferences for requirement fulfilment into several distinct categories to help gain an understanding of customer satisfaction. These are:

- Must-be quality attributes - consumer is dissatisfied if not fulfilled; fulfillment does not increase satisfaction

- One-dimensional quality attributes - consumer is satisfied this attribute is fulfilled; non-fulfillment will cause dissatisfaction
- Attractive quality attributes - consumer is satisfied when this attribute is fulfilled; non-fulfillment does not cause dissatisfaction
- Indifferent quality attributes - consumer satisfaction is not affected if this attribute is fulfilled or unfulfilled
- Reverse quality attributes - consumer is dissatisfied when this attribute is fulfilled; non-fulfillment will cause satisfaction

Table 1. Kano Evaluation Table (Kano et al., 1984)

		Dysfunctional form of the question				
		Like	Must-be	Neutral	Live with	Dislike
Functional form of the question	Like	Q	A	A	A	O
	Must-be	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

Legend: M = Must-be requirement; O = One-dimensional requirement; A = Attractive requirement; I = Indifferent requirement; R = Reverse requirement; Q = Questionable requirement

Equation 1. Consumer Satisfaction

$$CS = \frac{A + O}{A + O + M + I}$$

Where:

CS = Customer satisfaction

A = Attractive attribute

O = One-dimensional attribute

M = Must-be attribute

I = Indifferent attribute

Consumer Attitude Using Fishbein's Multi-attribute Model.

The researchers looked into Fischbein's Multi-attribute Model to understand how product attributes impact consumer attitudes. The Fischbein model has been widely applied in studying consumer attitudes towards a certain product or service (Kim, 2012; Simová, 2012; Tabassum & Rahman, 2012; Desai & Desai, 2013; Montolalu, 2013; Uță & Popescu, 2013; Islam, 2015; Dhume, Kamble & Raut, 2017). Fischbein's Model has undergone a number of modifications through the years in comprehensively understanding the level of consumer attitude towards a product attribute, but its three components largely stay the same (Montolalu, 2013):

- Salient beliefs – which a person considered during evaluation about those beliefs toward the object
- Object-attribute linkage – an attribute an object probably has

- Evaluation – of each attribute whether important or not

Equation 2. Fischbein's Multi-attribute Model

$$A_o = \sum_i^n b_i e_i$$

Where:

A_o = consumer attitude

i = attribute

b = belief

e = evaluation

Framework

Conceptual Framework

In this conceptual model, the researchers are looking at satisfaction having a direct relationship with attitude concerning product attributes. Primarily because, a person has already a preconceived notion of the product, thus moderately affects satisfaction during and upon product/service experience. The current research used the product attributes collected from the related literatures and provided a relational concept as shown in the map:

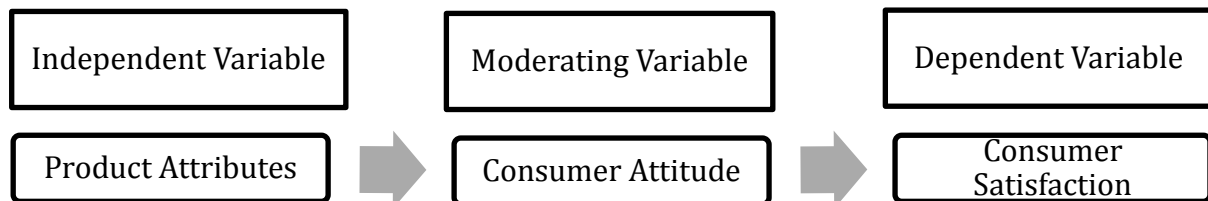


Figure 1. Concept Map

Satisfaction is product of perception based on the input and out, and the succeeding evaluation on them (Yüksel & Yüksel, 2008). Therefore, the relationship of consumer attitude and consumer satisfaction is rooted in the cognitive functions of a consumer, in which one affects the other. The product attributes both have impact on the consumer attitude and consumer satisfaction (Lo et al., 2016; Desai and Desai, 2013; Montolalu, 2013). Based on past studies, the product attributes separately affect consumer attitude and consumer satisfaction. The current research argues that consumer attitude moderates the level of satisfaction that a consumer feels.

Operational Framework

This map draws the relationship between consumer attitude and consumer satisfaction relative to product attributes:

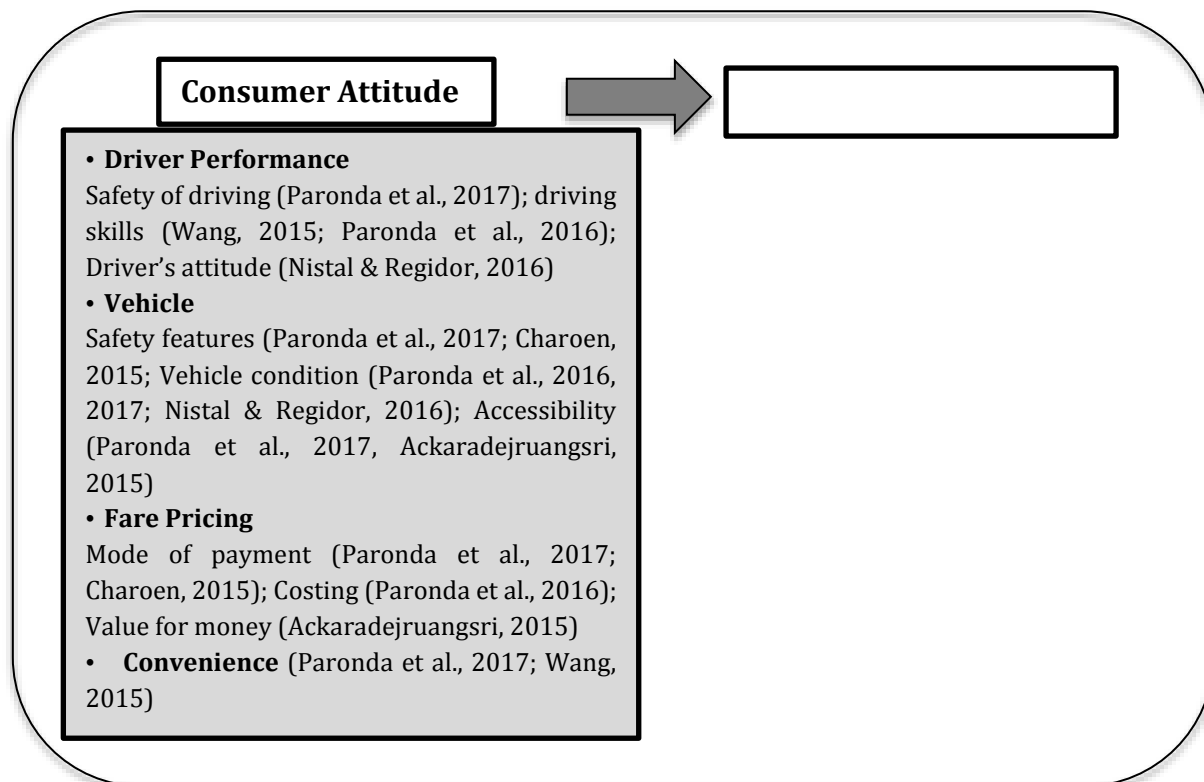


Figure 2. Operational Framework

Methodology

The study employed a quantitative research design, which included descriptive, correlational, and causal designs. The current study utilized the correlational research design to find the relationship between consumer attitude and consumer satisfaction, with the researchers having no control over the former (Jenatabadi, 2014). Also, a causal research design was effective in determining the cause and effect relationship the variables of the current study have.

The researchers conducted non-probability sampling and employed judgment and quota sampling in acquiring the 40 commuter-respondents aged 20 to 35 years old. Judgment sampling highlights the experience of respondents, their availability and willingness to participate (Etikan, Musa, & Alkassim, 2015). Since the study at hand was geared towards discovering the consumer attitude and consumer satisfaction of commuters who have had experienced riding both regular taxis and TNVS (i.e., Grab/Uber), the researchers needed respondents who fit this qualification, in addition to the fact that they should also be residing and/or working in Metro Manila. Furthermore, quota sampling was utilized to ensure that the sample size is representative of the commuting population. Quota sampling, as according to Van Voorhis and Morgan (2007), was a reasonable sample size when measuring group differences of 30. The study at hand had a sample size of 40 which was deemed appropriate, without compromising the representativeness to the population. In addition, Johanson and Brooks (2010) cited the studies of Isaac and Michael (1995) and Mooney and Duval (1993) highlighting the advantages of the 30 respondent sample size including ability to test hypotheses, simplicity and ease of calculation and even confidence intervals.

The respondents' place of residence or work could either be situated in the business districts within Metro Manila, which included the cities of Makati, Manila, Mandaluyong, Quezon, Pasig and Taguig. The cities were chosen based on the high number of TNVS (i.e., Grab/Uber) users in the area as well as taxi riders (Nistal & Regidor, 2016; Paronda et. al., 2016). The age bracket was selected due to the statistics provided by TNCs wherein millennials were among the highest number of their users (Marzilli, 2017) and previous studies' range of respondent's age (Nistal & Regidor, 2016).

The current research deployed an online survey, which was an adaptation of the survey process conducted in previous researchers in data gathering (Nistal & Regidor, 2016; Ackaradejruangsri, 2015). A five-point Likert scale was used in the survey questionnaires which the respondents rated from 1 being the lowest or "Strongly Disagree" and 5 being the highest or the "Strongly Agree." The questionnaires were divided into three parts: the first part aimed to gather demographics, the second was aimed to measure consumer attitudes, and the third was aimed to measure consumer satisfaction. All respondents were asked for consents first before proceeding with the surveys. Pre-tests were conducted to test the reliability of the questionnaire, in which the Cronbach's alpha reliability test scored 0.923 indicating the reliability of the research instrument.

The attributes that were measured in the survey questionnaire were divided into four categories: Driver Performance, Vehicle, Fare Pricing, and Convenience. Under Driver Performance, the attributes were (1) safety of driving, (2) driving skills, and (3) driver's attitude. As for Vehicle, the attributes included (4) safety features, (5) vehicle condition, and (6) accessibility. For Fare Pricing, it included (7) mode of payment, (8) costing, and (9) value for money. The last attribute was (10) Convenience.

The current research used Descriptive and Quantitative Analysis to discuss the results of the online survey that gathered data for understanding the relationship of consumer attitude and consumer satisfaction, and the difference of the variables across regular taxis and TNVS (i.e. Grab/Uber). The data gathered regarding the demographics of the respondents underwent descriptive analysis. This was to provide a better profiling of the respondents. The data gathered were tabulated for frequency distribution counts. The mean, median, and mode scores were also computed as measures of central tendency. These were helpful in testing the normality of a data set. A normal data means that the sample size was representative of the population.

As for the correlational analysis, the statistical treatments that were employed were multiple regression analysis (Mason & Perrault, Jr., 1991) and ANOVA (Bartlett, et al., 2000). Multiple regression was used to test the hypothesis about the relationship of two variables: consumer attitude and consumer satisfaction. The study utilized the predictive and conclusive capabilities of the statistical tool. R^2 , together with the significance level of the study which was 0.05, was used to understand the predictive power of consumer attitude on consumer satisfaction. Meanwhile, ANOVA was used to compare the means of several groups of observation. The analysis was based on the assumption that the data was normally distributed and has the same standard deviation. ANOVA was applied in response to the research objective of whether there is a significant difference between consumer attitude across regular taxi and TNVS, and between consumer satisfaction across regular taxi and TNVS.

Results and Discussion

Demographics

The age bracket 28-31 years old had the highest response at 37.5% followed by age bracket 24-27 at 35%. This is an indication that there is a huge following of Door-to-Door services among the youth. On sex, the respondents are gender balanced. Most lived in Manila with 27.5% followed by the residents of Taguig at 22.5%. Moreover, the respondents worked in Taguig City at 32.5% and Makati City at 30%.

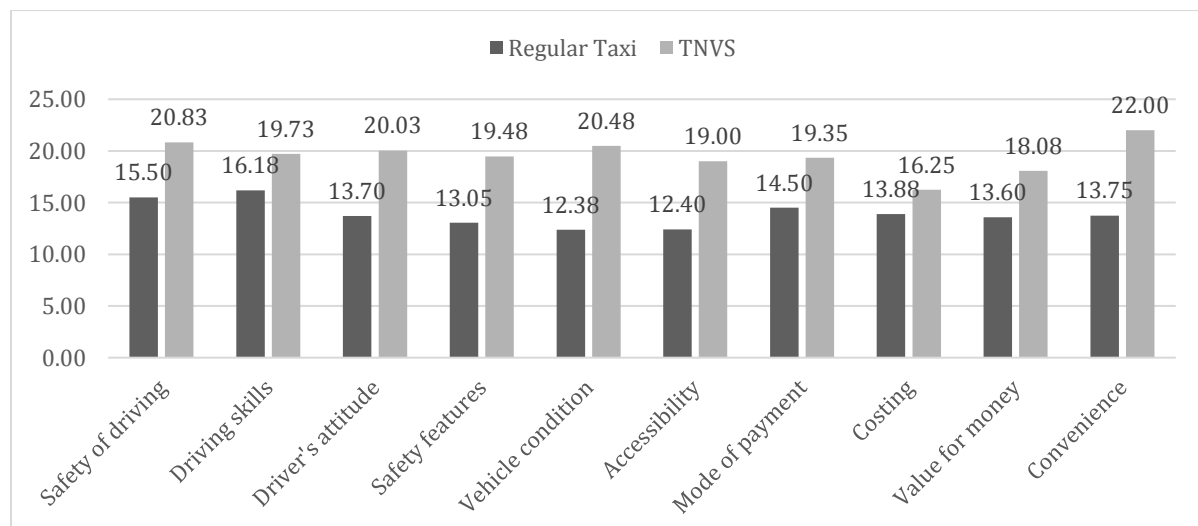
In addition, the researchers found that in the last three months, 40% of the respondents were unable to ride a Regular Taxi against 10% in TNVS (i.e., Grab/Uber). This showed a huge part of the respondents do not prefer Regular Taxis as a Door-to-Door Transport Service within the last three months. Despite Regular Taxi's 60% score in actual ridership in the last three months, the TNVS' (i.e., Grab/Uber) score is significantly higher at 90%. This also supported the claim of Paronda and colleagues (2017) about the direct competition between Regular Taxis and TNVS (i.e., Grab/Uber).

Product attributes

Under Driver Performance, the results showed that Safety driving, Driving skills and Driver's attitude were Extremely Important having a Belief score of 4.6, 4.475 and 4.4, respectively. In particular, these values showed that Safety driving is the most important to them in terms of Driver's Performance.

For the Vehicle category, the respondents generally believed that Safety features, Vehicle condition and Accessibility are Extremely Important following their Belief scores reaching 4.3 or more, putting high regard to these attributes. Vehicle condition got the highest for this section which scored 4.375. The data showed that the vehicle used in a door-to-door transport service could be looked upon by the consumers. Some respondents do not find the attributes under the Vehicle category falling within their highest level of priority.

Results showed that Fare Pricing is Extremely Important to the respondents following the score of Mode of payment at 4.250, Costing at 4.375 and Value for money at 4.450. About 7.5% of the respondents, however, believed that Mode of payment and Value for.



Legend

Very Negative (0-5); Negative Attitude (5.1-10); Neutral Attitude (10.1-15); Positive Attitude (15.1-20); and Very Positive Attitude (20.1-25)

Figure 3. *Consumer Attitudes towards Regular Taxis and TNVS (i.e., Grab/Uber)*

Many respondents set Convenience as Extremely Important for them following the 4.575 belief score. Respondents also answered that driver's knowledge of road direction, comfort before, during and after travel, passenger's safety, engaging drivers who are also professional in providing service, pleasing drivers and vehicles, overall customer service including feedback mechanism and quick response and its sustainability.

Consumer Attitude

Respondents have Positive Attitude for the attributes Safety Driving and Driving Skills under Driver's Performance of Regular Taxi. Results showed that driving skills has the highest attitude score with 16.18, followed by Safety driving with 15.50, while the Driver attitude posted the lowest with 13.70 falling under Neutral Attitude. In relation to the low Driver's attitude score, some respondents find nothing likeable about taxis since some taxi drivers are rude, arrogant and unpleasant, potentially reckless in driving, picky on passengers especially on far away destinations, dishonest and cheating.

On the other hand, TNVS (i.e., Grab/Uber) scored highest on Safety driving with 20.83, followed by Driver's attitude at 20.03 and Driving skills at 19.73. Results showed that respondents have Very Positive Attitude with Safety driving of TNVS (i.e., Grab/Uber). Although having the lowest attitude score, driving skills still falls on a higher Positive Attitude along with Driver's attitude. According to some respondents, most TNVS (i.e., Grab/Uber) drivers are polite and kind, but some are also sleazy and rude. On the Driving skills, most TNVS drivers heavily rely on GPS, Waze and Google maps for directions.

Comparatively, the Driver Performance attitude scores of TNVS (i.e., Grab/Uber) are regarded to have higher attitude value than Regular Taxis. In fact, some respondents find nothing to dislike with TNVS (i.e., Grab/Uber), while in Regular Taxis, some respondents had a hard time looking for what to like about it. However, for Regular Taxi drivers, some respondents were pleased that almost all of them knew the road, unlike TNVS (i.e., Grab/Uber) drivers who occasionally consult map applications on their mobile phones.

In terms of the Vehicle category, the attitude of the respondents on Regular Taxi's vehicle attributes were Neutral Attitude with scores of 13.05 for Safety features, 12.375 for Vehicle condition and 12.4 for Accessibility. According to them, the vehicle's road worthiness, length of usage and poor car maintenance, cleanliness and foul odor are some of the matters that might lead to more negative attitude of customers towards the taxi industry. But the respondents noted that Regular Taxis are readily available even without an online-based application. Ease of access is one of the resounding comments from the respondents.

Consumer satisfaction

Consumers regard Costing as an element that could satisfy when addressed properly following a score of 0.83, which is interpreted as an Extremely Satisfactory attribute. The attribute with least satisfaction rating is Driver's attitude with a score of 0.53 or interpreted as

Neutral Satisfaction. The researchers further found that drivers had the tendency to be rude, thereby having an attitude undesirable to commuters. The dissatisfaction consumers have regarding driver's attitude could be supported by the studies of Paronda and colleagues (2017) and Charoen (2015) wherein they discovered that one of the complaints on regular taxis most commonly received were with drivers' attitudes. Their respondents cited that these drivers had tendencies to be rude or behave inappropriately.

The researchers' inquiry regarding product attributes which would drive further satisfaction for the commuters included recurring themes such as increased security, increased accessibility, and regulated surcharges. Security is an important factor for commuters and one of the reasons why they would go with TNVS rather than taxis (Charoen, 2015). In the current study, commuters would appreciate security more in the form of driver's authentication, accident insurances, and capability to choose whom the driver will be.

Surcharge has been cited by commuters to dissatisfy them. According to the LTFRB, surcharge for TNVS could be likened to taxis' "kontrata" system (Bondoc, 2017). Surcharges were imposed when demand for TNVS is high and when availability is limited, and in this sense, TNVS could be exploitative towards its users (Gunarwati & Kurnia, 2017).

Consumer attitude and satisfaction relationship

These two concepts were tested as to whether these have significant relationship with each other, with respect to the two door-to-door services being studied. The researchers made use of multiple regression analysis to test the hypotheses (Mason & Perrault, Jr., 1991). With regard to the relationship between consumer attitude and consumer satisfaction towards regular taxis, the researchers had the following hypotheses.

H₀: There is no significant relationship between consumer attitude and consumer satisfaction towards regular taxis.

H₁: There is a significant relationship between consumer attitude and consumer satisfaction towards regular taxis.

Table 2. Relationship between Consumer Attitude and Consumer Satisfaction on Regular Taxis

<u>Parameters</u>	<u>Beta Coefficient</u>	<u>Sig</u>
Driver Performance	0.03	0.46
Vehicle	-0.02	0.67
Fare Pricing	-0.05	0.15
Convenience	0.7	0

Adj R² = 0.74, p value = 0.00

The p value of the model is 0.00 which is ≤ 0.05 which meant that the H₀ is rejected. Therefore, there is a significant relationship between consumer attitude and consumer satisfaction towards regular taxis. This is supported by the Adj R² $\geq 50\%$.

Convenience is a significant predictor of consumer satisfaction towards regular taxis since its p value is ≤ 0.05 . Consumers place a great importance on convenience as found by a number of studies (Paronda et al., 2017; Nistal & Regidor, 2016; Charoen, 2015; Wang, 2015). Shall regular taxis better this product attribute, consumers could better be satisfied. For every one unit increase in Convenience, consumer satisfaction will increase by 0.70.

Driver Performance, Vehicle, and Fare Pricing are not predictors of consumer satisfaction. For every one unit increase in Vehicle, consumer satisfaction decreases by 0.02; likewise, for every one unit increase in Fare Pricing, consumer satisfaction decreases by 0.05.

It could be said that the presence of these attributes would not necessarily translate to an increase in satisfaction. This was surprising as according to Paronda and colleagues' (2017) study, one of the nine reasons riders provided as to why they choose Uber/GrabCar over taxis was because cars were new, which could mean good vehicle conditions for the former. Moreover, they also found that some of the top complaints commuters have regarding taxis were air conditioner problems and unsafe mechanical problems. Regular taxis lag behind TNVS in terms of quality of service and reliability (Paronda et al., 2016), and the current research's findings prove otherwise.

Regarding Fare Pricing, increases in these attributes does not translate to an increase in consumer satisfaction as well. This was surprising as consumers choose Uber/GrabCar over taxis because these have the option for cashless payments (Paronda et al., 2017), which is a stark contrast against regular taxis wherein only cash payments are accepted.

The attributes under these four categories can only explain consumer satisfaction by 74%. Other factors can explain consumer satisfaction.

As for the relationship between consumer attitude and consumer satisfaction towards TNVS (i.e., Grab/Uber), the researchers had the following hypotheses. These were also measured using multiple regression analysis.

H₀: There is no significant relationship between consumer attitude and consumer satisfaction towards TNVS (i.e., Grab/Uber).

H₁: There is a significant relationship between consumer attitude and consumer satisfaction towards TNVS (i.e., Grab/Uber).

Table 3. Relationship between Consumer Attitude and Consumer Satisfaction on TNVS (i.e., Grab/Uber)

<u>Parameters</u>	<u>Beta Coefficient</u>	<u>Sig</u>
Driver Performance	-0.16	0.08
Vehicle	0.11	0.25
Fare Pricing	-0.08	0.23
Convenience	0.16	0.06

Adj R² = 0.12, p value = 0.08

The p value of the model is 0.08 which is ≥ 0.05 which means that there is not enough evidence to reject H₀. Furthermore, this model has an Adj R² $\leq 50\%$. The attributes under Driver Performance, Vehicle, Fare Pricing, and Convenience can only explain consumer satisfaction by 12%. This could mean that other factors could account for consumer satisfaction in TNVS (i.e., Grab/Uber), such as, stronger state policies (Ackaradejruangsri, 2015), especially for PWDs (Ward, 2016), price fixing (Sanjukta, 2017), and other issues attached to large-scale digital organizations (Jordan, 2017; Ranchordás, 2017). All of which could affect TNVS' consumer satisfaction aside from the attributes given.

For every one unit increase in Driver Performance and Fare Pricing, consumer satisfaction decreases by 0.16 and 0.08, respectively. Likewise, for every one unit increase in Convenience and Vehicle, consumer satisfaction increases by 0.16 and 0.11, respectively. It could be said that the presence of attributes Safety Driving, Driving Skills, Driver's Attitude,

Modes of Payment, Costing, and Value for Money would not necessarily equate to an increase in consumer satisfaction. Commuters have cited that they like Uber/GrabCar because of its cashless option (Paronda et al., 2017).

Commuters have repeatedly stated that convenience and vehicle condition have been driving forces for them to choose TNVS over regular taxis (Paronda et al., 2017, 2016; Nistal & Regidor, 2016; Ackaradejruangsri, 2015). Again, presence of these attributes would not automatically equate to an increase in consumer satisfaction.

Technological updates are features that TNVS have over regular taxis (Nistal & Regidor, 2016). Respondents seemed to have an issue with TNVS drivers' heavy reliance on GPS, Waze, and Google, and that some drivers are having difficulties in operating these new technologies (Charoen, 2015). This could be also be a factor not considered in the current study.

Difference in consumer attitude and consumer satisfaction across regular taxis and TNVS (i.e., Grab/Uber). To measure the difference in consumer attitude and consumer satisfaction across regular taxis and TNVS (i.e., Grab/Uber), ANOVA was utilized. The researchers had the following hypotheses:

H₀: There is no significant difference between consumer attitude across regular taxis and TNVS (i.e., Grab/Uber).

H₁: There is a significant difference between consumer attitude across regular taxis and TNVS (i.e., Grab/Uber).

Table 4 shows that the p value 0.00 is ≤ 0.05 which means that the H₀ is rejected. Therefore there is a significant difference between consumer attitude across regular taxis and TNVS (i.e., Grab/Uber). Consumer's attitude towards regular taxis would fall mostly under neutral attitude, with only Driving skills scoring a positive attitude. Meanwhile, consumer's attitude towards TNVS would range from positive attitude to very positive attitude.

Table 4. Difference between Consumer Attitude across Regular Taxis and TNVS (i.e., Grab/Uber)

Source of Variation	SS	Df	MS	F	P value	F crit
Between groups	158.34	1	158.34	78.86	0	4.41
Within groups	35.69	18	1.98			

For consumer satisfaction for regular taxis and TNVS (i.e., Grab/Uber), the researchers had the following hypotheses:

H₀: There is no significant difference between consumer satisfaction across regular taxis and TNVS (i.e., Grab/Uber).

H₁: There is a significant difference between consumer satisfaction across regular taxis and TNVS (i.e., Grab/Uber).

Table 5. Difference between Consumer Satisfaction across Regular Taxis and TNVS (i.e., Grab/Uber)

Source of Variation	SS	Df	MS	F	P value	F crit
Between groups	70.49	1	70.49	21.54	0	4.41
Within groups	58.9	18	3.27			

Table 5 shows that the p value 0.00 is ≤ 0.05 which means that the H₀ is rejected. Therefore there is a significant difference between consumer satisfaction across regular taxis

and TNVS (i.e., Grab/Uber). Consumer satisfaction is a function of beliefs and the strength of these beliefs about an object's attribute (Yüksel & Yüksel, 2008). Thus, due to the difference in attitudes computed in the current study, consumer satisfaction has also been found to vary between regular taxis and TNVS. Should one of the services wish to level up their features to gain better consumer satisfaction ratings, it would be imperative that they go back to their product attributes and the attitudes consumers would have on them.

Conclusions

Consumer attitudes rely heavily on expected benefits from the product and how this product delivers those expectations. Shall these expectations be met, then favorable attitude could be expected thus causing favorable purchasing decision. These decisions would include intention to buy a product or service, which is also affected by a consumer's evaluation and attitude. Once an organization or an industry understands its market, then this market could be won. Purchase intentions then become imperative to know as this is the most precise indicator of a shopper's behavior. If consumers have a good impression and attitude toward a brand or product, then purchase intentions will be created ("Measure attitude for marketing purposes," 2014). However, a link between attitude and behavior could not always be supported by research, as these do not usually happen at the same level (Clerfeuille & Poubanne, 2003).

There is a significant relationship between consumer attitude and consumer satisfaction towards regular taxis; thus rejecting the null hypothesis. However, it was found that there is no significant relationship between consumer attitude and consumer satisfaction towards TNVS (Grab/Uber); thus failing to reject the null hypothesis. There were significant differences between the two concepts across the two door-to-door transportation services; thus rejecting the null hypotheses in both cases.

The results of this study can serve as a reference for product designers to create attractive quality attributes in their products and thus enhance customer satisfaction. Questions such as whether overall customer satisfaction improves if quality attribute performances improves, and whether overall customer satisfaction deteriorates if quality attribute performances deteriorates, merit further investigation.

Limitations and Recommendations for future research

The present study, which ran within the period of November-December 2017, has certain limitations. It utilized online survey questionnaires using 40 respondents aged 20 to 35 years old. The researchers understand the limitations of the survey questionnaires, but included probing questions to inquire necessary details that were not captured in the structured survey questions. The researchers looked into the respondents' work and residence locations, as well as whether they have ridden a regular taxi and/or TNVS (i.e., Grab/Uber) for the past three months. The researchers only used regular taxis and TNVS (i.e., Grab/Uber) and do not include special taxis and other form of TNCs. This gives the researchers a focus for comparison.

Moreover, the study is limited to the components and assumptions of the theories explained by Fishbein and Kano. The study is also only limited to four (4) attributes, such as Driver's Performance, Vehicle, Fare Pricing and Convenience and a total of ten (10) dimensions for all attributes. Hence, the study is limited to the scores of these attributes in knowing the level of consumer attitude and consumer satisfaction.

Following these limitations, future researches may extend the current study to further add to the literatures about consumer attitude and consumer satisfaction and their linkages, models used, as well as other forms of conventional and emerging transport services aside from regular taxis and TNVS (i.e., Grab/Uber).

Thus, the researchers recommend future scholars to study how demographics play as a variable on consumer attitude and satisfaction in using Door-to-Door Transportation Services, among other available mode of transportation in the country. Also, future studies can focus more on Regular Taxis, Grab, Uber or other forms of transportation, and have a more specific comparative analysis.

The study is quantitative in nature, however, there is still a paucity of qualitative research to support big data research in the Philippines (Paronda et. al, 2016). The current researchers recommend to conduct more qualitative studies focusing on various transport network companies, the passengers, the drivers, and even the regulators to have a deeper understanding on how these elements in this nascent industry interplay.

Moreover, the results of the study provided categories for product attributes. Future researchers may extend and use these attributes in the same field. Lastly, future researchers may use the current study as an additional related literature about consumer attitude and consumer satisfaction and their linkages, the models used, as well as in studying other forms of conventional and emerging transport services aside from Regular Taxis and TNVS (i.e., Grab/Uber).

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