

## Understanding of Behavioral Intention use of Mobile Apps in Transportation: An Empirical Study



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### ABSTRACT

This study was conducted to assess the customer loyalty of online transportation users. The perceived value variable was used as the antecedent behavioral intention for online transportation customers. Furthermore, to overcome gaps in the literature and provide an important understanding of consumer behavior in online transportation, this paper aimed to empirically assess the Customer Perceived Value (CPV) of online-based transportation users in Indonesia. In addition, this research also integrated CPV with Expectation Confirmation Model (ECM). The method used in this study was the Structural Equation Model (SEM). Statistical analysis showed that Perceived Value (UPV) had a significant and positive impact on User Satisfaction (SAT), while User Satisfaction (SAT) had a significant and positive impact on User Continue Intention (UCI). Perceived Value (UPV) had no significant effect on User Continue Intention (UCI).

**Key words:** Customer Perceived Value, Expectation Confirmation Model, mobile apps, mobile transportation

### 1. INTRODUCTION

With today's rapid technological advancements, many things can be done instantly. Whatever the community needs, it can be done online or using

the internet. Of the various things that can be done online, one of the most often done by people today is ordering online for their activities. Ordering online transportation is one of the smartest innovations. That is because with their presence, it can make it easier for people who want to travel.

At present the existence of online transportation is indeed becoming a transportation trend. If a few years ago, online transportation was only available in big cities in Indonesia, so now online transportation has started to be available in several districts and cities.

In Indonesia, online application-based transportation is indeed booming. Many people prefer to use online transportation services because the booking process is easy, the calculation of costs is more transparent, and the service is also more satisfying.

In fact, online transportation is not just serving services to take passengers to their destination, some online transportation provides services as courier delivery, buying food or other needs, and ordering cinema tickets. At present, online transportation is dominated by two large companies namely GoJek and Grab. Both of these companies are always innovating to attract customers. For example GoJek gives bonuses to drivers, while Grab provides massive promos. Besides that, Grab has a policy that can win the GoJek market, which will certainly make the same policy even more. Even more interesting, the two companies have their respective advantages. Grab excels at online taxis and also massive promotions. Whereas GoJek excels in terms of the well-being of its partners. This makes the services provided by GoJek is good. In addition, Gojek is also famous for its food-delivery features (Go-Food) and massage on demand features (Go-Massage).

This study conducts an assessment regarding customer loyalty of online transportation users. We use the perceived value variable as antecedent's behavioral intention for online transportation customers. To overcome gaps in the literature and provide an important understanding of consumer behavior in online transportation, this paper aims to empirically assess the customer perceived value (CPV) of online transportation users in Indonesia. CPV is the main constituent of marketing and can encourage companies to provide the desired value to their customers, besides CPV has become a means of differentiation and a reason for the existence of a company in encouraging its sustainability and success [1], [2]. In this study we integrate CPV with the expectation confirmation model (ECM). Primary data are collected through a national consumer questionnaire survey. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) in structural equation modeling (SEM) are applied to carry out statistical analysis.

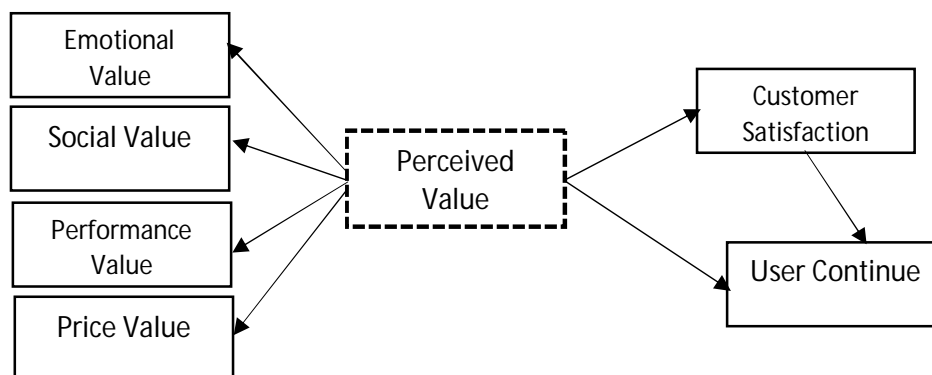
## 2. RELATED WORK

### 2.1 Perceived Value

Perceived value is the overall customer assessment of the usefulness of a product for what is received and provided by the product. Customer assessment is done by comparing the benefits to be received with the sacrifice incurred to obtain a product / service. However, perceived value can also mean that customers' businesses compare products / services of certain companies with competing companies in terms of benefits, quality, and price. Customers can feel that the value offered is different based on personal values, needs, preferences and financial resources. In addition, the perception of value can also differ according to the situation of its use. According to Sweeney and Soutar (2010: 8) the dimension of perceived value consists of four main aspects: 1. Emotional Value, namely the utility that comes from feelings or affective / positive emotions arising from using a product or service. 2. Social Value, which is the utility obtained from the ability of the product or service to improve the customer's self-social concept. 3. Quality / Performance Value, which is the utility obtained from the perception of the expected quality and performance of the product. 4. Price / Value of Money, which is the utility obtained from the product due to the reduction of short-term costs and long-term costs.

[3] Examined six service industries and found a significant correlation between PV, satisfaction, and behavioral intentions. [4] found that PV and experience quality positively influence satisfaction, and that PV positively influences loyalty. Many researchers have studied the relationship between PV and satisfaction [5], [6], [7]. In addition, research conducted in the IS industry has identified

## 3. RESEARCH METHOD



**Figure 1:** Research framework

To investigate the proposed relationship in our research model, the same as, we developed online and offline-based questionnaires. Data were collected through a questionnaire,

correlations between PV, satisfaction, and CI [8], [9]. Based on the literature and theoretical deduction mentioned above, this study proposes the following hypothesis:

H1. PV has a positive influence on user online transportation satisfaction.

H2. PV has a positive influence on continuous intention of user online transportation.

### 2.2 Satisfaction and continuous intention

[9] Suggest that customer satisfaction plays an important role in influencing repurchase interests. Consumers who are satisfied tend to have an interest in repurchasing compared to dissatisfied consumers. The higher the level of customer satisfaction, the higher the intention of consumers to buy back [10]. Other research conducted by [11][12] shows the same thing which shows that satisfaction has a positive and significant effect on repurchase intention.

User satisfaction is a key factor influencing user intentions to continue, based on the expectation confirmation model in the information system (ECM-IS). User satisfaction in using information technology services can provide satisfying benefits, which will affect the user's ongoing intention to use the information technology [13][14][15].

The experience gained by users of technology services and effectiveness in solving problems faced by users, will have an impact on their perceptions of taste, this will ultimately affect the user's satisfaction.

Therefore, the following hypothesis is offered.

H3: The customer satisfaction in an online transportation has a positive impact on the user's continuous intention.

which contained questions about the specific circumstances of use, respondents' participation in using online transportation, measurement of relevant variables, and

respondents' basic situation, using a single question and matrix scale. The survey chose to investigate the two leading online transportation services in Indonesia namely GoJek and Grab. Both of these startups not only serve transportation activities, but provide other service features such as food and package delivery within the city, massage services, home cleaning services and non-payment feature.

The main research object of this paper was general public. The questionnaire was published on 12 April 2019 and collected on 20 May 2019, which collected 225 valid questionnaires.

In this paper, we used Excel and Smart PLS to analyze data. As for the reasons, (1) these two software packages are a common choice when analyzing data; (2) easy to use for descriptive statistical analysis and correlation analysis; (3) is widely used to do structural equation modeling (SEM). Data analysis included descriptive statistics, reliability analysis, and validity, correlation analysis, and verification of structural equation models. The inner model and outer model analysis methods were used to analyze correlation variables, and structural equation models and research hypotheses were validated by Smart PLS software.

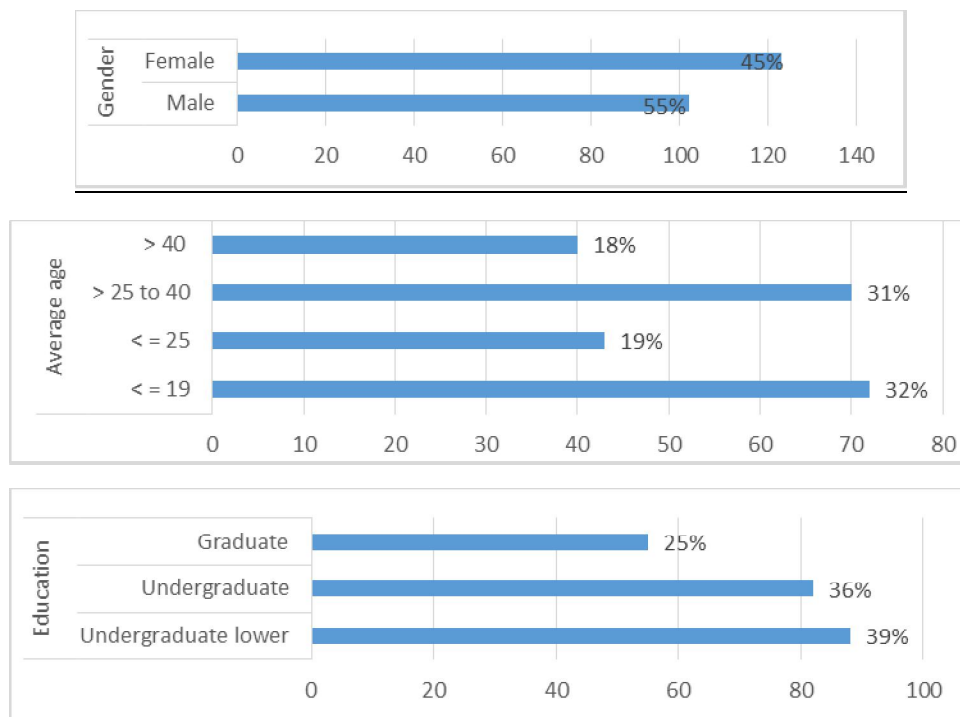
#### 4. RESEARCH AND DATA ANALYSIS

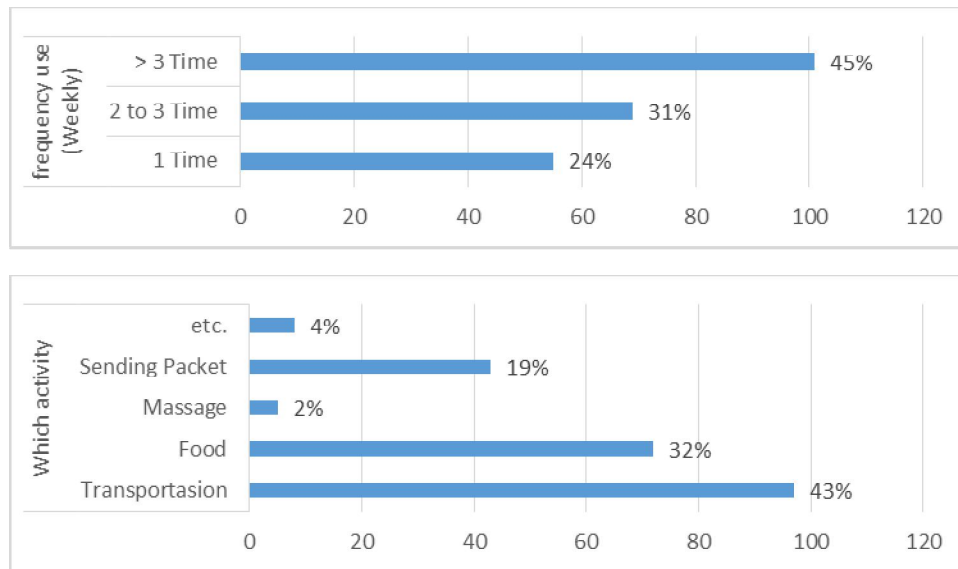
##### 4.1. Descriptive Statistical analysis

First of all, we conducted a statistical analysis of demographic samples from online transportation users. Figure 2 shows the characteristics of the sample of this study.

The main characteristics are as follows: (1) the proportion of men and women involved in this survey is relatively balanced by only a difference of 5%; (2) young people in this survey accounted for the majority of respondents; (3) more respondents have undergraduate and lower education levels.

As can be seen from the statistical results, that the tendency of online transportation users is not only used by people who are adults, but tends to be used by people who are still relatively young. Even more interesting is that the duration of use of these two startups in a week on average respondents used it more than three times. This shows that the intensity of the community in using online transportation startups is very high, on the other hand the main activities that are most in demand are transportation services and food delivery services.





**Figure 2:** Descriptive analysis sample data

4.2 Outer Model and Inner Model Analysis

Outer Analysis. This model specifies the relationship between latent variables and their indicators. It can be said that the outer model defines how each indicator relates to its latent variable. Tests carried out on the outer model are:

1. Convergent Validity. The convergent validity value is the factor loading value on the latent variable with its indicators. The expected value on the loading factor is > 0.7. Besides loading factor, the value that must be considered is Average Variance Extracted (AVE). Expected AVE value > 0.5. Next is Composite Reliability (CR). Expected CR > 0.7.

2. Discriminant Validity. This value is the value of cross loading. This is useful to find out whether the construct has adequate discriminant, that is by comparing the loading factor value on the intended construct and the value must be greater than the loading value with other constructs.

In addition, the reliability test is strengthened with Cronbach Alpha. Expected value > 0.6 for all constructs. To find out the value of the inner model can be done by looking at the value of R<sup>2</sup>.

**Table 1:** Convergent validity test of the related variables

	Latent Variables	Observed Variable	Standardized Factor Loading	Composite Reliability	Average Variance Extracted	Cronbachs Alpha	R Square
<b>Perceived Value (UPV)</b>	Emotional Value (EMV)	EMV1	0.8427	0.8951	0.7399	0.8262	0.9557
		EMV2	0.8655				
		EMV3	0.872				
	Performance Value (PEV)	PEV1	0.9108	0.9248	0.8039	0.8779	
		PEV2	0.8645				
		PEV3	0.9137				
	Price Value (PRV)	PRV1	0.9174	0.9278	0.8107	0.8831	
		PRV2	0.8841				
		PRV3	0.8994				
	Social Value (SOV)	SOV1	0.9094	0.9245	0.8032	0.8776	
		SOV2	0.8832				
		SOV3	0.8957				
	User Satisfaction	SAT1	0.7806	0.8928	0.7359	0.8193	0.4847
		SAT2	0.9038				

(SAT)	SAT3	0.8841				
User Continue Intention (UCI)	UCI1	0.8932				
	UCI2	0.9347	0.9421	0.8445	0.9077	0.6891
	UCI3	0.9285				

**Table 2:** Discriminant validity (correlation matrix)

	User Satisfaction (SAT)	User Continue Intention (UCI)	Perceived Value (UPV)
<b>User Satisfaction (SAT)</b>	0.8578		
<b>User Continue Intention (UCI)</b>	0.8300	0.9190	
<b>Perceived Value (UPV)</b>	0.6962	0.5688	0.8233

### 4.3 Hypothesis Testing

In general, explanatory research method is a method approach that uses PLS. This is because in this method there is hypothesis testing. Testing the hypothesis can be seen from the t-statistic value and the probability value. For testing hypotheses using statistical values, for alpha 5% the

t-statistic value used was 1.96. So the hypothesis acceptance criteria is  $H_a$  accepted when  $t\text{-statistics} > 1.96$ .

**Table 3:** Summary of hypotheses testing results

	Hypothesis Test	Standard Error	T Statistics	Conclusion
<b>H1</b>	Perceived Value (UPV) -> User Satisfaction (SAT)	0.0345	20.1821	Support
<b>H2</b>	Perceived Value (UPV) -> User Continue Intention (UCI)	0.0499	0.3513	Reject
<b>H3</b>	User Satisfaction (SAT) -> User Continue Intention (UCI)	0.0437	19.2656	Support

## 5. CONCLUSION AND IMPLICATION

Overall, this research contributes to the literature in four ways. First, based on previous conceptual and empirical research, we propose CPV analytic models in four different constructs - price value, quality value, social value, and emotional value and have developed steps and scales suitable for online transportation users. Second, using primary data collected from national consumer surveys, statistically assessing the unidimensionality, reliability, validity, and model-to-data suitability of the CPV model and proving that the model is valid, its measurements are adequate, and survey instruments can produce reliable data. In addition, all four constructs show a significant impact on CPV and capture most of the CPV variants regarding consumers from online transportation. The accountability of each construct in the CPV variant is also determined quantitatively. Third, beyond descriptive analysis and subjective assessment, the results of the CPV analysis

provide rigorous statistical evidence revealing consumer attitudes and behavior towards online transportation. The value-based knowledge gained from this research enables a

more effective understanding of information regarding online transportation in Indonesia so that it can be used in the decision making process for consumers. Finally, this study discusses the relationship between the desired values identified by CPV analysis and the values conveyed by consumers who use online transportation. Value creation is the key for companies to achieve long-term success.

This study also provides several research and managerial implications. For academics, this research adds knowledge to future studies that explore CPV and its possible relationships with other major components in consumer behavior, especially in online transportation. The four-dimensional CPV model has good and stable psychometric properties. The results show that CPV in assessing not only from utilitarian aspects such as price value and quality value, but also in terms of emotional value (for example, enjoyment and pleasure that comes from services provided by online transportation drivers) and social consequences of what is obtained is recommended to another user.

For industry practitioners, recognition of the importance of different dimensions of value desired by consumers can help

companies develop more competitive services and use more effective marketing and promotion strategies. Although consideration of social and emotional values plays a role in every purchase decision, price has been revealed as the most influential factor in this study while quality is determined as a secondary importance among CPV. For most consumers, they want more information about the services offered and

promos (discounted prices) so they can make better decisions for their money.

Overall, it is hoped that if a service from online transportation can provide the value that consumers want, they will be more willing to use the service, willing to recommend, and show greater satisfaction with the services.

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