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Analysis of Determinants of Consumer Decisions on the Use of Trans Banyumas and Gojek

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A B S T R A C T

Current technological developments affect people's mobility in using transportation. The presence of online transportation has an impact on available public transportation. The study aims to determine the factors that influence consumer decision makers on the selection of conventional transportation services and online transportation. Data processing using regression analysis using SEM PLS tools. The results of SEM PLS from the total influence value of online transportation (y) have an influence on the price factor (x1) 0.506, security (x2) 0.488, ease of access (x3) 0.448, and convenience (x4) 0.470. As well as in conventional transportation (y) has a significant influence on the price factor (x1) 0.319, security (x2) 0.299, accessibility (x3) 0.331 and convenience (x4) 0.308. So that the significant variables are online prices for online transportation and ease of access to conventional transportation. The most influential SEM PLS value of online transportation is the evaluation price expected by consumers, namely the price is directly proportional to the facilities provided. While the influential factor on conventional transportation is the ease of access to the expected evaluation, namely the addition of shellter / bus stops.

1. Introduction

Transportation is a primary need for every community in carrying out mobility. Transportation used by the community includes conventional transportation and online transportation. One example of conventional transportation is Bus Rapid Transit. Bus Rapid Transit first operated in Indonesia, namely in the DKI Jakarta area, with the designation Busway. Now almost every region has Bus Rapid Transit such as Trans Jakarta, Trans Banyumas, Batik Trans Solo, Trans Mataram, and many more Bus Rapid Transit operating in several regions in Indonesia [1]. Public transportation facilities and services are better than previous public transportation [2] but have encountered problems becoming the second choice

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since the emergence of online transportation. Starting from the establishment of the GO-JEK company on October 13, 2010, which is the first pioneer of online transportation in Indonesia. The development of the number of online transportation is very rapid, so it is very fast entering urban areas throughout Indonesia [3]. Online transportation services were created to facilitate movement or people in traveling (Rosa & Widad, 2018). The amount of public interest in using online transportation is based on safety and comfort factors [4]. This of course also makes mobility in Purwokerto City very high [5].

Online drivers have an obligation to provide services in the form of security, safety and comfort [6]. Users of online application-based transportation services are people who generally need fast, safe, comfortable and cheap transportation services [7]. Online-based transportation that has become phenomenal in developing countries. Four factors determine the lifestyle of the five user segments, namely cost efficiency, speed, service value, and convenience [8]. The price of online transportation is indeed more expensive than private vehicles or public transportation. However, it provides flexibility and convenience as an alternative mode of transportation [9]. Internal perception factors (perceived ease of use), external influences (subjective norms), innovation characteristics (compatibility), perceived enjoyment and service variations affect user behavioral intentions on online transportation services in Indonesia [10]. E-Service Quality has a significant effect on Intention to Use Online Transportation Services and Social Media Marketing has a significant effect on Intention to Use Online Transportation Services [11]. Online transportation provides alternative transportation solutions in the midst of vehicle density to be fast and able to reach places that other public vehicles are unlikely to reach [12]. The factors that have the most influence on online transportation customer switching behavior, namely price, promotion and e-service quality simultaneously have a direct effect on customer satisfaction of 64.9% [13].

Partially, the variables Promotion, People, Process, and Physical Evidence have a significant effect on decisions to use online applications. Meanwhile, the variables of production, price, and place do not significantly affect the decision to use online transportation [14]. From entropy analysis, it was found that the three best aspects for GO-JEK online transportation services are cognitive perception, ease of use, and perceived website innovativeness [15]. There is a positive influence between information system quality, service quality, perceived security, and perceived privacy on Grab customer satisfaction [16]. Service encounter failure has a significant effect on consumer switching behavior. Therefore, online transportation service providers should pay more attention to human resources such as creating training programs for each driver [17]. Simultaneously (together) between price, service quality and Online Transportation User Decisions (Grab) in Jakarta and R Square means that the variance in decision making can be taken by price, service quality, and promotion through a model of 42.2% and the remaining 57.8% comes from other variables outside the price, service quality, and promotion variables [18].

There is a significant influence between the quality of online transportation services and several factors: (1) driver recruitment process, (2) reasons for drivers to work, (3) driver performance assessment, (4) customer satisfaction, and (5) driver motivation implications [19]. Service quality and trust significantly affect customer satisfaction, but price does not show a significant effect on customer satisfaction. Furthermore, price, service quality, and trust simultaneously show a significant influence on online transformation customer satisfaction [20]. Factors that divert the use of public transportation need to be known, such as safety, comfort, cost, travel time, and convenience. This will affect a person in choosing a mode of transportation [21]. This study will connect four variables related to consumer decisions, namely price, safety, comfort, ease of access to see whether these four variables affect consumer decisions or not.

Therefore, one method that can be used in this research is to use variance-based Structural Equation Modeling (SEM) analysis, namely Partial Least Square (PLS). A statistical

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method for examining the correlation between observable and latent variables that can be applied in the evaluation of transportation systems is the structural equation model (SEM) [22]. Structural equation modeling (SEM) is used to analyze measurement models and structural models that have more detailed relationships between parameters [23] [24]. Partial least squares structural equation model (PLS-SEM) to analyze the main factors in decision making [25], In addition, SEM models can also be used to integrate transportation with the environment. Several applications of SEM have been widely applied to the transportation sector, this research will develop a model of decision making in using transportation. Based on the description of the background, it is necessary to further research on the analysis of factors that determine the decision of passengers of transportation services both conventional and online in Purwokerto City. This research aims to determine the truth of the theoretical concepts regarding the factors that influence consumer decisions [26].

2. Research Method

Based on the objectives and formulation of the problem, this research is included in quantitative research. This study aims to provide an explanation of whether there is an influence between the variables of decision-making factors (x) in choosing the right transportation on each factor, namely price (y1), comfort (y2), safety (y3), and ease of access (y4) as the dependent variable. Data collection in this method uses a questionnaire instrument distributed to students totaling 100 Go-Jek user respondents and 100 Trans Banyumas user respondents. The results of the questionnaire will then be analyzed using SmartPLS with the PLS algorithm stage.

3. Description and Technical

1. Population and Samples
   The population in this study were students of Universitas Jenderal Soedirman, especially students at campus 1 of Universitas Jenderal Soedirman (UNSOED) where there is a Trans Banyumas bus stop and Gojek shelter which are close together.
2. Sampling Techniques.
   In this study, the technique used in sampling was to use the Quota Sampling technique. Quota Sampling technique is a sampling technique with certain considerations. Given the unknown population size, to determine the sample quota the researcher uses the Maximum Likelihood Estimation (MLE) technique method which ranges from a minimum of 100 samples and a maximum of 200 samples. Therefore, the sample in this study were 200 students of Jenderal Soedirman University (UNSOED) who were taken based on quota sampling, each of which was 100 respondents for the banyumas trans bus and 100 respondents for online transportation.
3. Definition of Variable Operations.
   The variables used in this study are five variables, namely:
   1. The variable determining the decision to choose conventional transportation and online transportation acts as the dependent variable, namely the variable whose diversity is influenced by other variables.
   2. Price variable, classified as an endogenous variable and acts as an independent variable that affects the dependent variable in the model.
   3. The convenience variable is classified as an endogenous variable and acts as an independent variable that affects the dependent variable in the model.
   4. Security variable, classified as an endogenous variable and acts as an independent variable that affects the dependent variable in the model.
   5. The ease of access variable, classified as an endogenous variable and acts as an independent variable that affects the dependent variable in the model.

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4. Instrument Analysis Tool.
   The questionnaire technique is to collect data and information needed in the research by sharing a google form link with transportation passengers in order to obtain primary data. The questionnaire was distributed to a number of passengers both conventional and online, with the number of respondents determined in the research sample.
5. Data Analysis Techniques.

In this study, data analysis was carried out using the SEM (Structural Equation Modeling) method with the help of the SmartPLS application which is in accordance with the operationalization of the variables that have been formulated, so in this study an instrument scale was used to measure the value of the questionnaire using a Liket scale.

4. Results and Discussions

This section contains (concise form) data analysis and interpretation of results. Interpretation of results using theories from articles as used. The descriptions is given include theoretical, implicative, and managerial, or practical. From the results of distributing questionnaires, it is known that the characteristics of UNSOED student respondents are 145 respondents are female, 146 respondents are on average 22-24 years old, 115 respondents are undergoing semesters 7-8, 137 respondents have private vehicles, 104 respondents with pocket money of 2-3 million, 113 respondents use transportation for other purposes.

Table 1 is a research indicator. This type of indicator will be the benchmark in the model development analysis. Outer analysis or model measurement is carried out to describe the relationship between indicators and latent variables. This indicator will be used in model building in SEM-PLS.

Table 1. Research Indicators

Indicators	Description
HO1/HK1	Online/Conventional price affordability
HO2 / HK2	Online / Conventional Payment Methods
HO3 / HK3	Online / Conventional price promotion
KYO1 / KYK1	Online/Conventional Hygiene
KYO2 / KYK2	Online / Conventional Friendliness
KYO3 / KYK3	Space between passengers Online/Conventional
KAO1 / KAK1	Feeling of safety Online / Conventional
KAO2 / KAK2	Online/Conventional driver identity
KAO3 / KAK3	How to drive online/conventional
KSK1 / KSK1	Online/Conventional punctuality
KSK2 / KSK2	Online / Conventional service access
KSK3 / KSK3	Online / Conventional pick-up and destination points
ONL / CON	Online/Conventional Factor Considerations
O	Online (gojek)
K	Conventional (Trans Bus)

Structural Model Evaluation

R square is a value that shows how much the independent variable (exogenous) affects the dependent variable (endogenous). The R-square value is used to determine the level of influence of the independent variable on the dependent variable. The R-square value is divided into three limits, namely above 0.67 is categorized in the explained variable that is strong, the value range

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of 0.33 to 0.67 is categorized in the explained variable that is moderate and 0.19 to 0.33 value is categorized in the explained variable that is weak.

Table 2. R Square Go-Jek

	R Square
Online Price	0.256
Online Safety	0.238
Ease of Access	0.201
Online Convenience	0.222

According to table 2, the influence of the variable Determinants of Decisions to use Gojek online transportation 0.917 (strong) on Price Factors 0.256, Security 0.238, Ease of Access 0.201 and Convenience obtained R Square 0.222. While others are influenced by other factors not examined. The largest R Square value of endogenous variables on Online Prices is 0.248, meaning that 24.8% of the Online Price Factor is the most important decision-making factor for using online transportation. Meanwhile, conventional transportation can be seen in the table 3 below.

Table 3. R Square Trans Banyumas

	R Square
Conventional Price	0.101
Conventional Security	0.089
Conventional Ease of Access	0.11
Convenience Conventional	0.095

According to table 3, the influence of the variable Determinants of Decisions to use conventional transportation Trans Banyumas 0.395 (moderate) on Price Factors 0.101, Security 0.089, Ease of Access 0.11 and Comfort obtained R Square 0.095. While others are influenced by other factors not examined. The largest R Square value of endogenous variables on Online Price is 0.11, meaning that 11% of the ease of access factor is the most important decision-making factor for using conventional transportation. While others are influenced by other factors that are not studied.

Modeling Results

The results of modeling research on decision-making factors where the value of the exogenous variables to endogenous variables shows the total influence, the value of the latent factor variable total influence, the value of the latent variable factor shows the R-square value, and the value of the latent variable to each indicator shows the value of the R-square. the value of the latent variable to each indicator shows the validity value. validity. SmartPLS modeling results can be seen in Figure 1 dan Figuru 2.

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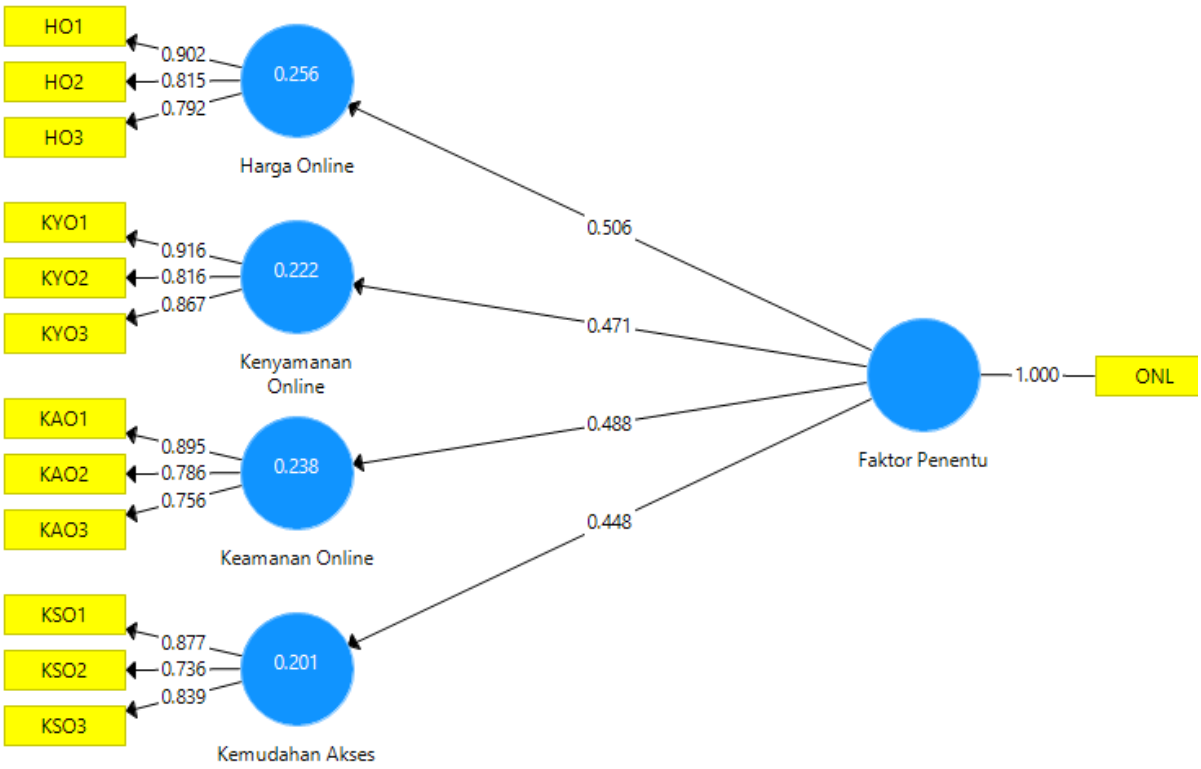

Figure 1. Go-Jek modeling

From Figure 1 the results of research on Gojek online transportation users show that the most influential factor in making decisions to use online transportation is price. The price variable is the most important determining factor because of the many price offers and the application of technology offered and provided by the online transportation system including non-cash payments, paying with credit cards can get cashback promos, the more often you use it, the more often you get discounts, online transportation has customer loyalty programs such as a point rewards system every time you ride online transportation, and various voucher codes for each travel transaction. The values of the analysis results are known, such as the total effect value can be seen from the value on the arrows connecting between variables, namely exogenous variables (determining factors) to each endogenous variable (price, comfort, safety, and ease of access). It is known that the largest total influence value occurs in the relationship between determining factors and prices of 0.506. While the value in the latten variable shows the R square value (influence) of the determining factor variable to each of the price, comfort, safety, and ease of access variables. It is known that the price variable has the highest R square value of 0.256 or 25.6%, which is the effect of price on determining factors. And the value that connects the latten variable with the indicator shows the validity value of each indicator. It is known that all indicators have a value ≥7, which means that all indicators have good validity.

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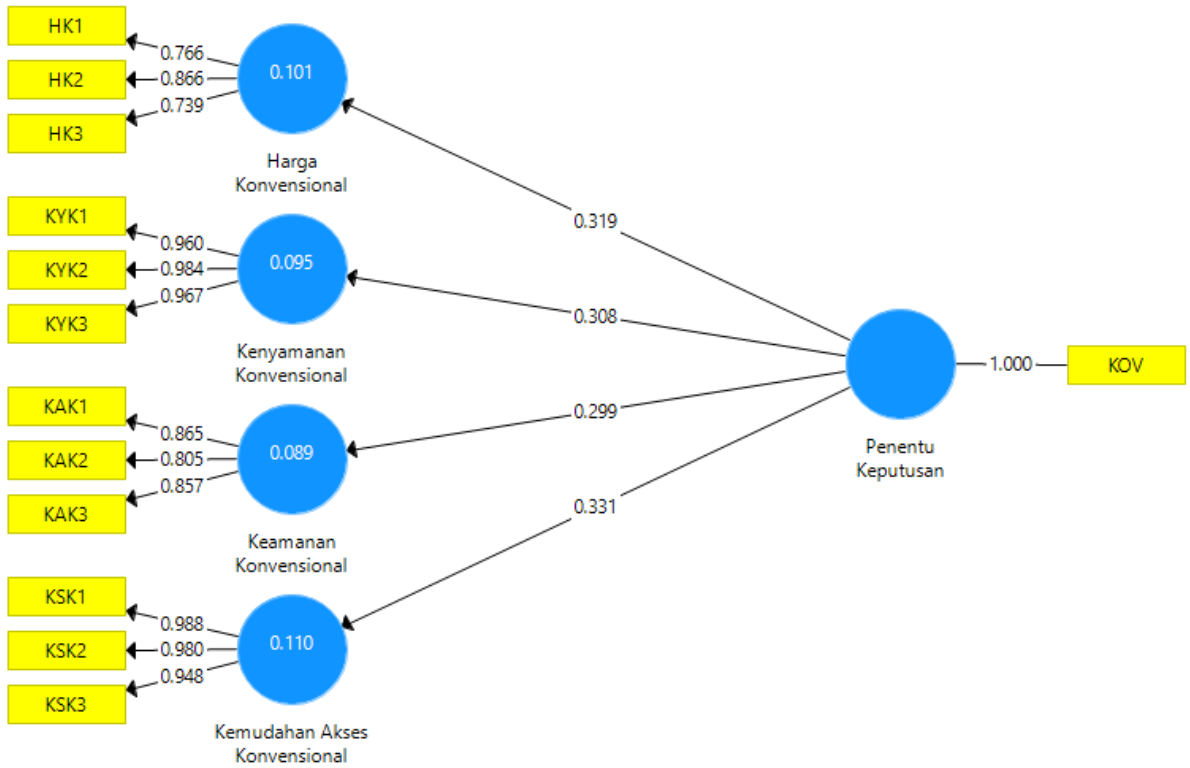

Figure 2. Trans Banyumas Modeling

From Figure 2, the results of research on Trans Banyumas conventional transportation users show that the most influential factor in making decisions to use conventional transportation is ease of access. The ease of access variable is the most important determining factor because of the accuracy of the pick-up point at each waiting stop and integration with other public transportation that makes it easier to travel. It is known that the values of the analysis results, such as the total effect value, can be seen from the value on the arrows connecting between variables, namely exogenous variables (determining factors) to each endogenous variable (price, comfort, safety, and ease of access). It is known that the largest total influence value occurs in the relationship between determining factors and prices of 0.331. While the value in the latten variable shows the R square value (influence) of the determinant variable to each variable price, comfort, safety, and ease of access. It is known that the price variable has the highest R square value of 0.110 or 11, which is the effect of ease of access on the determining factor. And the value that connects the latten variable with the indicator shows the validity value of each indicator. It is known that all indicators have a value of ≥7, which means that all indicators have good validity.

5. Conclusion and Suggestion

5.1 Conclusion

The magnitude of the influence of the Decision Determinant variables on Go-jek on the Price, Convenience, Security and Ease of Access factors obtained the highest R Square of 0.248 on the Price variable (Gojek), which means that in determining the decision to use Go-jek, the price factor is the most influential factor among other factors, namely 24.8%. This is based on respondents' answers to the variable price which varies so that the price factor is the main factor that has the most influence in determining the decision to use Go-jek.

The magnitude of the influence of the Decision Determinant variables on Trans Banyumas on the Factors of Price, Comfort, Security and Ease of Access obtained the highest R Square of 0.11 on the Ease of Access variable (Trans Banyumas), which means that in determining the decision to use Trans Banyumas, the ease of access factor is the most influential

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factor among other factors, namely 11%. This is based on respondents' answers to the variable ease of access which varies so that the price factor is the main factor that is most influential in determining the decision to use Trans Banyumas.

5.1 Suggestion

This study shows that Soedirman University students choose conventional and online transportation services due to the influence of several factors that suit their respective needs. Therefore, for future researchers to reveal other problems regarding the influence of decisions to use conventional transportation and online transportation so that future researchers are more widespread and more specific about decision making from comparing several determining factors.

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