# ONLINE TRANSPORTATION SERVICES: FACTORS AFFECTING CONSUMER SWITCHING BEHAVIOR

*LAYANAN TRANSPORTASI ONLINE: FAKTOR-FAKTOR YANG MEMPENGARUHI PERILAKU BERALIH KONSUMEN*

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**Abstract:** The development of transportation in the revolution era 4.0 is increasingly rapid and one of the example is on demand services. Online transportation services have become public consumption. Gojek and Grab compete to get more customers, as well as maintaining their regular customers to not switch to competitor. Consumer switching behavior can occur if the company does not pay attention to several factors. This study aims to analyze the factors that affecting consumer to do the switching behavior. This research is using quantitative research method and use binary logistic regression analysis. This research is using purposive sampling with 100 respondents as a sample. The result shows that service encounter failure significantly affecting the consumer switching behavior. So, it is better for service provider to pay more attention to the human capital such as make a training program for each drivers.

**Keyword:** *transportation, online transportation services, consumer behavior, consumer switching behavior*

***Abstrak:*** *Perkembangan transportasi di era revolusi 4.0 semakin pesat dan salah satu contohnya adalah jasa on demand. Transportasi online telah menjadi konsumsi publik. Gojek dan Grab bersaing untuk mendapatkan lebih banyak pelanggan, serta mempertahankan pelanggan reguler mereka agar tidak beralih ke pesaing. Perilaku beralih konsumen dapat terjadi jika perusahaan tidak memperhatikan beberapa faktor. Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi konsumen untuk melakukan perilaku switching. Penelitian ini menggunakan metode penelitian kuantitatif dan menggunakan analisis regresi logistik biner. Penelitian ini menggunakan purposive sampling dengan sampel 100 responden. Hasil penelitian menunjukkan bahwa kegagalan dalam pertemuan layanan secara signifikan mempengaruhi perilaku berpindah konsumen. Jadi, lebih baik bagi penyedia layanan untuk lebih memperhatikan sumber daya manusia seperti membuat program pelatihan untuk setiap pengemudi.*

***Kata kunci:*** *transportasi, jasa transportasi online, perilaku konsumen, perilaku beralih konsumen*

## INTRODUCTION

### Research Background

The revolution of transportation in Indonesia continues to grow from time to time. People used to only depend on animals around or even use self-power to move goods. Public transportation is passenger transport services by group travel systems available for use by public, usually managed on a schedule, operated on a designated route, and charged for each trip. In Manado, people's favorite that they choose to help them in their daily activity are still public transportation, specifically motorcycle taxi (ojek). Motorcycle taxi is the most chosen. This kind of public transportation have no legal organization that handles them and also operated without an official company, they often grouped and created their own station motorcycle. The appearance of Industrial Revolution 4.0 signifies that the industrial world has entering a new era. One of the examples of business opportunities in the era of industrial revolution 4.0 is On-Demand Services. Basically, on-demand service is a service that only appears around us if we want it. It is considered as one of the best innovations today. That is the reason why its emergence at the beginning was welcomed quite well. Watanabe (2016) explained that online transportation is an on-demand service connecting passengers and the drivers using mobile technology.

To determine the most popular ride-hailing app, an online survey was carried on. The survey was conducted by ecommerceIQ (2018) on January 2018 and the first position goes to Gojek. The company has become a favorite among survey respondents since its establishment in 2010. But recently, Spire Research and Consulting (2019) conducted a study of drivers and customers to find preferences for online transportation service providers. Based on the survey, 75% and 61% of respondents said that Grab was the brand they used in the past 6 and 3 months. Meanwhile, 62% and 58% of respondents chose to use Gojek. Looking at these data, the consumers use Grab more. From these data, it can be concluded that the online transportation services switch is still happening apart from the popularity of a particular online transportation service.

### Research Objective

The purpose of this research is:

1. To find out whether core service failure significantly affect the consumer switching behavior
2. To find out whether service encounter failure significantly affect the consumer switching behavior
3. To find out whether pricing significantly affect the consumer switching behavior
4. To find out whether inconvenience significantly affect the consumer switching behavior

## THEORETICAL REVIEW

### 1. Marketing

Marketing is a customer focus that permeates organizational functions and processes, and is geared towards marketing promises through value proposition, enabling the fulfillment of individual expectations created by such promises and fulfilling such expectations through support to customers value-generating processes. Thereby supporting value creation in the firm's as well as its customers' and other stakeholders' processes. (Kotler. et al., 2004:6)

### 2. Service Marketing

Service marketing is as an organizational function and a set of processes of which identifying or creating, communicating, and delivering value to customers and for maintaining the customer relationship in a way that bring benefit to the stake-holders and the organization. (American Marketing Association, 2007) There is no transfer any physical elements that are involved because services only obtain value like the good quality of a services company system, network, skills, or facilities. Even with all the exchange, the service providers usually do not own of any of the physical elements that are involved. (Lovelock and Wirtz, 2011).

### 3. Consumer Behavior

Consumer behavior as the totality of consumers decisions with respect to the acquisition, consumption and disposition of goods, services, activities, experiences, people and ideas by decision-making over time. (Hoyer and Macinnis, 2010:3)

### 4. Consumer Switching Behavior

Switching is pointed to the times where consumer moved on the competing option rather than the one they usually purchased on their next purchase occasion, in the context of consumer behavior. (Babin and Haris,

2011). Customer could still be royal to the current service provider and could avoid to switch if they aware that they are given greater value than they would receive if they choose the competitors. (Lam, et. al., 2004). There are 8 factors found that cause customer to switch, which are Core Service Failure, Service Encounter Failure, Pricing, Inconvenience, Response to Service Failure, Competitive Offers, Ethical Problem, and Involuntary Switching. (Keaveney, 1995).

**5. Online Transportation Services**

Some studies use the term ride sharing to define online transportation services. It is called ride sharing because due to the vehicle used is owned by a person an individual and then then being shared with other people when delivering the services (Wallsten, 2015). Ride sharing is an on-demand services that connecting passengers and vehicle owners in real time with the help of mobile technology. (Watanabe, 2016).

**Previous Research**

There is an investigation on Price, Reputation, Service Quality, Effective Advertising Competition, Involuntary Switching, Distance and Switching Cost of customer switching which effects retail banking operations in Pakistan. The result showed that all considered factors have significant effect on customer switching, however, price and advertising competition identified as most important and least important influential factors respectively on customer switching. (Ghouri *et. al.,* 2010). A study conducted to know the factors that determine the consumers switching behavior of young adults in cellular service providers. Amongst all factors, price was the most influential factor that influences the behavior of young adults. (Prasad and Kumar, 2016). Another study conducted to analyze the service quality of online transportation focusing on the technology aspect with Gojek as a case study. The result showed it was found that the best three aspects for GOJEK online transportation services are perceived cognitive, ease of use, and perceived website innovativeness. (Putu and Munajat, 2017).

**Conceptual Framework**

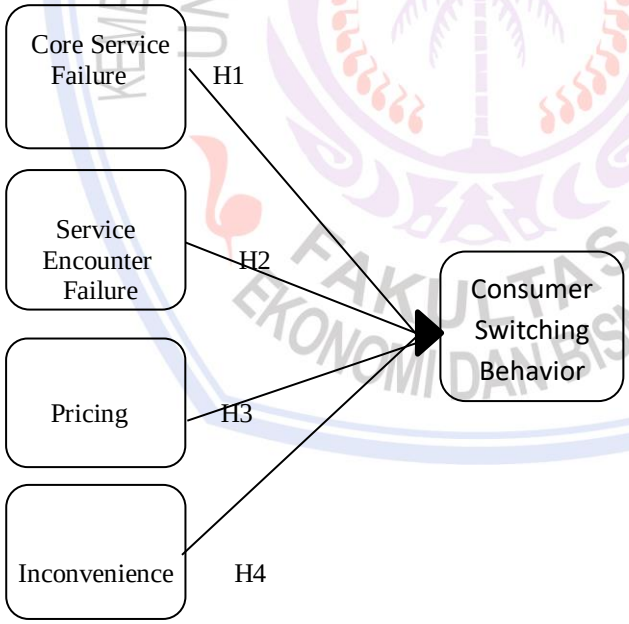


**Figure 1. Conceptual Framework**

*Source: Data Processed, 2019*

**Research Hypothesis**

H1: Core Service Failure significantly affect the consumer switching behavior
H2: Service Encounter Failure significantly affect the consumer switching behavior

H3: Pricing significantly affect the consumer switching behavior
H4: Inconvenience significantly affect the consumer switching behavior

## RESEARCH METHOD

### Research Approach

This research uses quantitative approach. Quantitative approach emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Causal analysis is a research conducted to establish cause-and-effect relationship among variables. This is undertaken to find out the effect of Core Service Failure (X1), Service Encounter Failure (X2), Pricing (X3), and Inconvenience (4) toward Consumer Switching Behavior (Y) in online transportation services in Manado.

### Population, Sample, and Sampling Technique

The population in this research is people who have installed at least one online transportation application on their phone and use it on their daily lives. Sample method that can be used for this research is purposive sampling method with the sample size of the research will be 100 respondents.

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### Data Collection Method

This research analyze the primary data to gather the information. The primary data of this study were taken from the questionnaires. The questionnaires were distributed to respondents so they can respond directly on the questionnaires.

### Operational Definition of Research Variables

**Table 1. Variable Definition**

| No | Variable | Operational Definition | Indicators |
|---|---|---|---|
| 1. | Core Service Failure ($X_1$) | Core service failure, incidents related to technical problems or mistakes with the service itself. From a customer's perspective, a service failure refers to a real or perceived service related problem, or where something has gone wrong in dealing with an organization. | 1. Billing errors<br>2. Service mistake<br>3. Application errors<br>4. Disobedient |
| 2. | Services Encounter Failure ($X_2$) | Services encounter failure, problems arising during the interaction between product seller or service provider and customer. | 5. Unknowledgeable<br>6. Incompetent<br>7. Uncaring<br>8. Impolite |
| 3. | Pricing ($X_3$) | Pricing, the amount of money billed for a product or service, or the amount of value exchanged by customers to benefit from owning or using a product or service. | 9. Unfair pricing practices<br>10. Deceptive pricing practices<br>11. Price promotion<br>12. Price discrimination |

| | | | |
|---|---|---|---|
| 4. | Inconvenience (X5) | Inconvenience, trouble or difficulty caused to one's personal requirements or comfort. | 13. Extensive wait for service<br>14. Extensive wait to get an appointment<br>15. Hours of operation<br>16. Location of the services |
| 5. | Consumer Switching Behavior (Y) | Consumer switching behavior, times where consumer moved on the competing option rather than the one they usually purchased on their next purchase occasion. | 17. Attraction by competitors<br>18. Reputations<br>19. Customer relationship<br>20. Unavailability |

*Source: Data Processed, 2019*

**Validity and Reliability**

Validity test is to see the validity of the questions, the researcher use Validity test. It is used to see whether the questions within the questionnaire are valid and in-line with the research. Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests. Reliability test is established by testing for both consistency and stability of the answer question.

**Binary Logistic Regression**

Logistic Regression is a method of statistical analysis to describe relationships between dependent variables that have two or more categories with one or more free variables scale or continuous. (Hosmer and Lemeshow 2000). The logistic regression can be divided into binary logistic regression, multinomial logistic regression and ordinal logistic regression. The binary logistic regression model is used to analyze the relationship between one variable response and several predictor variables, with response variables in the form of qualitative dichotomous data which is worth 1 to state the existence of a characteristic and value 0 to state the absence of a characteristic.

The binary logistic regression model is used if the response variable produces two categories values of 0 and 1, so it follows the Bernoulli distribution as follows:

$$( y_i) = ( 1 - \pi_i)^{1-yi}$$

Description:
$\pi i$ = chance of the i-th event
$yi$ = i-random random variable consisting of 0 and 1
The form of logistic regression model with one predictor variable is as below:

$$(x) = \frac{exp\ ( 0 + \beta 1x )}{1 + ex\ (\beta 0 + \beta 1 )}$$

## RESULT AND DISCUSSION

**Result**

**Validity and Reliability**

Core Service Failure (X1), Service Encounter Failure (X2), Pricing (X3) and Inconvenience (X4) have a higher value than the r-table value that is 0.3. The significant level of each indicator of variables is below than significant level of 5% or 0.05. It means that every indicator in questionnaire in this research is valid and can be used for further analysis. The variable is reliable because the value of Cronbach's Alpha is 0,815 bigger than 0.7.

**Result of Multiple Linear Regression Analysis**
**Binary Logistic Regression Result**
**Overall Test**
**Table 2. Overall Test Result**

**Omnibus Tests of Model Coefficients**

| | | Chi-square | Df | Sig. |
|---|---|---|---|---|
| **Step 1** | Step | 13.617 | 4 | .009 |
| | Block | 13.617 | 4 | .009 |
| | Model | 13.617 | 4 | .009 |

*Source: SPSS Output, 2019*

H0 **:** There is no variable X that significantly affects the dependent variable
H1 : There is at least one variable that significantly affects the dependent variable
H0 rejected if Sig. < 0,05
From the omnibus test above it appears that Sig. = 0.009 which means less than 0.05
Decision : H0 rejected
Conclusion : It can be seen that the $G_2$ value is 13,617 with a p-value of 0,009 (Model) which means that with a 95% confidence level, there is at least one independent variable that affects the dependent variable. So it can be concluded that the model can be used for further analysis.

**Partial Variable Model Test**
**Table 3. Partial Variable Model Test Result**
**Variables in the Equation**

| | | B | S.E. | Wald | Df | Sig. | Exp(B) |
|---|---|---|---|---|---|---|---|
| **Step 1[a]** | X1 | .212 | .207 | 1.045 | 1 | .307 | 1.236 |
| | X2 | .735 | .295 | 6.211 | 1 | .013 | 2.085 |
| | X3 | -.304 | .389 | .612 | 1 | .434 | .738 |
| | X4 | .154 | .207 | .558 | 1 | .455 | 1.167 |
| | Constant | -13.733 | 7.700 | 3.181 | 1 | .075 | .000 |

*Source: SPSS Output, 2019*

From the table above it can be shown that there are one significant variable affecting the dependent variable with total of Sig. of 0.013 (X2). This is consistent with the previous output table statement which states that there is at least one significant X variable.
H0 : $\beta_1$ = O ( X1 does not significantly affect the dependent variable
H1 : $\beta_1$= Ø (X1 significantly affect the dependent variable)
H0 rejected if Sig. < 0,05. Therefore, H0 is accepted with Sig. 0.307. With 95% level of confidence, it can be concluded that the X1 variable does not significantly affect the dependent variable.
H0 : $\beta_2$ = O ( X2 does not significantly affect the dependent variable
H1 : $\beta_2$ = Ø (X2 significantly affect the dependent variable)
H0 rejected if Sig. < 0,05. Therefore, H0 is rejected with Sig. 0.013. With 95% level of confidence, it can be concluded that the X2 variable significantly affect the dependent variable.
H0 : $\beta_3$ = O ( X3 does not significantly affect the dependent variable
H1 : $\beta_3$= Ø (X3 significantly affect the dependent variable)
H0 rejected if Sig. < 0,05. Therefore, H0 is accepted with Sig. 0.434. With 95% level of confidence, it can be concluded that the X3 variable significantly affect the dependent variable.
H0 : $\beta_4$ = O ( X4 does not significantly affect the dependent variable
H1 : $\beta_4$= Ø (X4 significantly affect the dependent variable)
H0 rejected if Sig. < 0,05. Therefore, H0 is accepted with Sig. 0.455. With 95% level of confidence, it can be concluded that the X4 variable does not significantly affect the dependent variable.

According to the partial test results, it can be obtained a binary logistic regression model for the consumer switching behavior in online transportation services as below :

$$\pi(x) = \frac{(-13.733 + 0.375X_2)}{1 + (-13.733 + 0.375X_2)}$$

**Odds Ratio Test**

**Table 4. Odds Ratio Result**

**Variables in the Equation**

| | | B | S.E. | Wald | Df | Sig. | Exp(B) |
|---|---|---|---|---|---|---|---|
| **Step 1[a]** | X1 | .212 | .207 | 1.045 | 1 | .307 | 1.236 |
| | X2 | .735 | .295 | 6.211 | 1 | .013 | 2.085 |
| | X3 | -.304 | .389 | .612 | 1 | .434 | .738 |
| | X4 | .154 | .207 | .558 | 1 | .455 | 1.167 |
| | Constant | -13.733 | 7.700 | 3.181 | 1 | .075 | .000 |

*Source: SPSS Output, 2019*

Based on the results above, we can interpret the Odds Ratio as follows:

1. If core service failure increase by 1 then the tendency for consumer to switch is up to 0.307 times.
2. If service encounter failure increase by 1 then the tendency for consumer to switch is up to 0.013 times.
3. If pricing failure increase by 1 then the tendency for consumer to switch is up to 0.434 times.
4. If inconvenience increase by 1 then the tendency for consumer to switch is up to 0.455 times.

**Multicollinearity**

**Table 5. Multicollinearity Statistics**

| Model | Tolerance | VIF | Status |
|---|---|---|---|
| **Core Service Failure** | **.649** | **1.540** | **No Multicollinearity** |
| **Service Encounter Failure** | **.781** | **1.280** | **No Multicollinearity** |
| **Pricing** | **.786** | **1.272** | **No Multicollinearity** |
| **Inconvenience** | **.632** | **1.583** | **No Multicollinearity** |

*Source: SPSS Output, 2019*

As like the characteristic, there is no multicollinearity if the tolerance value > 0.100 and VIF value < 10. Table 5 shows the tolerance value of Consumer Switching Behavior (X1) is 1.540, Service Encounter Failure (X2) is 1.280, Pricing (X3) is 1.272 and Inconvenience (X4) is 1.583 are above 0.100 or below 10 which means that there is no multicollinearity in this research.

**Heteroscedasticity**

**Table 6. Heteroscedasticity Test**

| Coefficients[a] | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
| Model | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 (Constant) | 1.649 | .596 | | 2.768 | .007 | | |
| X1 | -.032 | .019 | -.181 | -1.634 | .106 | .649 | 1.540 |
| X2 | -.072 | .024 | -.299 | -2.957 | .030 | .781 | 1.280 |
| X3 | .065 | .030 | .217 | 2.148 | .034 | .786 | 1.272 |
| X4 | -.034 | .018 | -.212 | -1.886 | .062 | .632 | 1.583 |

*Source: Data Processed, 2019*

In conclusion: If the significance value (Sig.)> 0.05 then no symptoms of heteroscedasticity occur. From the output above, it appears that the four variables have no symptoms of heteroscedasticity because Sig. > 0.05.

**Interpret the goodness of fit**

**1. Hosmer and Lemeshow Test**

H0 : The model is quite enough to explaining the data

H1 : The model is not quite enough to explaining the data

H0 rejected if Sig. < 0,05

**Table 7. Hosmer and Lemeshow Test**

| Hosmer and Lemeshow Test | | | |
|---|---|---|---|
| Step | Chi-square | df | Sig. |
| 1 | 4.817 | 7 | .682 |

*Source: SPSS Output, 2019*

It can be seen from the table that the Sig. = 0.682 which means more than 0.05.

Decision : H0 is rejected**.** 95% confidence level it can be concluded that the logistic regression model used has been quite enough to explain the data.

**Nagelkarke R-square Test**

**Table 8. Nagelkerke R-square**

| Model Summary | | | |
|---|---|---|---|
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 80.661[a] | .127 | .209 |

*Source: SPSS Output, 2019*

Nagelkerke R-Square has a similar interpretation to the coefficient of determination in linear regression. The proportion of consumer switching behavior in online transportation services that can be explained by the model is 20.9%.

**Discussion**

The independent variables are core service failure, service encounter failure, pricing, and inconvenience that affect the dependent variable which is consumer switching behavior. The result from the regression show that only service encounter failure that significantly affect the consumer switching behavior. The data collected that was done by some tests and results shows that variable X2 (core service failure) is accepted. The previous research done by Dissanayake (2010) show that Service Encounter Failure (SEF) has significant effect towards Consumer Switching Behavior Core service failure (CSF) and Response to Service Failures (RTSF) in mobile communication service sector.

## CONCLUSION AND RECOMMENDATION

### Conclusion

After examining the findings and discussing the result, the conclusions based on this research can be formulated as follows:

1. Core service failure does not significantly affect the consumer switching behavior.
2. Service encounter failure significantly affect the consumer switching behavior.
3. Pricing does not significantly affect the consumer switching behavior.
4. Inconvenience does not significantly affect the consumer switching behavior.

### Recommendation

Application development is needed so that the system runs better. Because the customer sees and evaluates a service not entirely from the driver where there is direct contact. Before the customer deals with the driver, the customer must go through a search process, where the search process is carried out with the application. If the application runs well with a good system, there will be no problem finding the driver and starting the trip. Related to the human factor in the firm, which means it is also related to the human capital. Drivers are important in online transportation services where drivers with the online transportation service attributes, shows they are the image of the brand. The right suggestion for this problem is none other than the company conducting training from various aspects. Starting from knowledge about the city in which they operate, places that tend to be destinations as well as learning about the maps, and the most important thing is learning about ethics, how to be polite to others/customers. Firm also need to reconsider about the prices strategy they are using.

Money is a same universally but it is an individual's attitude towards it which makes the difference. (Kolibu, et al., 2018). Prices need to be rethought to adjust to the market share that use online transportation services the most. Such as students, so that prices are still appropriate and not detrimental to users. Lastly, companies can try methods that are already widely used in stores for example. For example if the waiter, in this case the driver does not smile, then the customer does not have to pay for the trip. Small policies like this can have the effect of good habits where customers feel comfortable with the friendliness of the driver.

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