Societal perception toward transportation modes based on online (Go-Jek) In Malang City

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Abstract. Driver online which is renowned as Go-jek is one of alternative transportation exist in Malang city based on IT. This service is supportive enough for all societies and easy to do serving, namely it is enough by using Go-jek application which is exist in Smartphone. Some services served by Go-jek including Go-Ride, Go-Car, Go-Food, Go-Send dan Go- Massage. By the development of technology and the emergence of alternative transportation, it will not close any chance to get competition. In its development some Go-Jek users started complaining about the services provided. This study aims is to assess the level of importance and performance and measure the level of community satisfaction in using Go-Jek with the method of Importance Performance Analysis (IPA) and Customer Satisfaction Index (CSI), Importance Performance Analysis (IPA) is used to determine the attributes of importance and level of satisfaction of performance while the Customer Satisfaction Index (CSI) is used to view the percentage of satisfaction level. Accidental Sampling technique is used to determine the sample based on spontaneity factor as well as for data collection using questionnaires with 100 respondents. The results of this study indicate that services considered important by the community but less attention namely waiting time for short reservations, ability to reach a specific location. Drivers deliver you to the right destination and reliability. For percentage of respondent satisfaction level, it is seen from several criteria: a) 0.81-1.00 Very satisfied, b) 0.66-0.80 Satisfied, c) 0.51-0.65 Simply satisfied, d) 0.35-0.50 Less satisfied, and d) 0.00-0.34 Very dissatisfied. From the results of this study, it shows that people feel very satisfied with the service given today with a value of 0.84 CSI, this value is at the interval of 0.81-1.00. Based on the results of the analysis, although the percentage of this study shows high level of satisfaction of the respondents but the service improvements should continue if Go-Jek wants to make this transport as a public transportation alternative choice for people that is not to move on to other alternative transportation.

1. Introduction
Malang city is a city located in East Java Province. The city is located at 90 Km south of Surabaya City and is the largest city in Indonesia by population [1]. The development of Malang City does not mean that the city is free from various problems. With limited job opportunities coupled with economic demands, then the motor that is used as a daily activity personally has been converted in function as a service provider / transportation tool that transports people and goods.

Recently the motorcycle taxi transformed into a professional means of transportation supported by technological sophistication called go-jek. Go-jek is a service company which is offering speed, security and convenience. One of the companies that carries the concept of business sharing economy is now
present in Indonesian [2], especially in Malang. Because Go-jek uses applications that can be used only temporarily, this is what distinguishes between Go-jek with a conventional motorcycle taxi. A service quality can be measured using five dimensions, namely, Reliability, Responsiveness, Assurance, Empathy, and Tangibility [3]. The dimensions which set out above is to assess and measure the quality of services to the company. The quality of services provided by Go-Jek will affect people's perception differently on the use of such services.

2. Methods

2.1. Importance Performance Analysis (IPA)

Importance Performance Analysis (IPA) is an application method to measure attributes according to importance and performance level or satisfaction level, it is to develop effective strategies for the company. This technique is based on four quadrant matrix that is bounded by two line sections intersecting perpendicular to point X (Y satisfaction level) and Y (average satisfaction level) and identifying the strengths and weaknesses of the service and determining improvement opportunities to develop strategic planning [4]. Martilla and Jams in [5] suggest the use of Importance Performance Analysis method in measuring service satisfaction level [5]. The main function is to display information relating to service facts which, according to consumers, greatly affect their satisfaction and loyalty. To find out how big customers feel satisfied with the performance level, use the following formula:

\[
T_{ki} = \frac{X_i}{Y_i} \times 100\%
\]

Where:

- \(T_{ki}\) = Respondent appropriateness value
- \(X_i\) = Evaluation score based on satisfaction
- \(Y_i\) = Evaluation score based on importance

After doing appropriateness level measurement, for the next is to make map position of importance performance which constitutes a building consisted of four quadrants.

Strategies that can be done in regard to the position of each variable from the four quadrants can be explained as follows:

a. Quadrant I (Keep up the Good Work), factors that are considered important & have high performance.

b. Quadrant 2 (Possible Overkill), Factors that are considered less important to customers, but have a performance which is quite satisfactory.

c. Quadrant 3 (Low Priority), the factors that are considered less important and not very special.
d. Quadrant 4 (Concentrate Here), Factors that are considered important by the customer but have not met expectations.

2.2. Customers satisfactory methods

Measurement of the Customer Satisfaction Index is necessary because the results of these measurements can be used as a reference to determine the target next year. Without any customer satisfaction index, it is impossible to determine the management in improving customer satisfaction. Assessment of satisfaction is an evaluation for management to improve service and win the competition [6]. The Customer Satisfaction Index (CSI) is used to view the overall customer satisfaction index by considering the importance of service attributes [7]. The steps to calculate the customer satisfaction index is explained such as follows:

a. Calculating Weighting Factor (WF)

The function of the median importance score or median score of importance for each variable is in the form of percent from the total median score of importance for all attributes tested.

b. Counting Weighted Score (WS)

The function of the median satisfaction score or median score of satisfaction level of each attribute is multiplied by the Weighting Factor (WF) of each variable.

c. Calculating the Total Weighted Median (WMT)

Total of the overall Weighted Score (WS) score

d. Customer Satisfaction Index

Calculations from Weighed Median Total (WMT) are divided into the maximum scale or high test scale multiplied by 100%. Overall satisfaction level of respondents can be seen from the criteria of customer satisfaction or consumer level with the following criteria: a. 0.81-1.00 (Very satisfied); B. 0.66-0.80 (Satisfied); C. 0.51-0.65 (Simply satisfied); D. 0.35-0.50 (Satisfied); E. 0.00-0.34 (Very dissatisfied).

Here is the formula to score the Customer Satisfaction Index (CSI) value such as follow:

\[ IKP = \frac{T}{5Y} \times 100\% \]  \hspace{1cm} (2)

Named with:

\( T \) = Multiplication result of importance value by satisfaction
\( Y \) = the result of importance accumulated

3. Results

Analysis of Important Performance Analysis (IPA) in this study is used to analyze the factors of interest and community satisfaction by using go-jek. The importance level of the variable service can be measured from whether the existence of the variable is needed or not. Variable services with high value should get serious attention from the management because this service variable will have dominant influence at the level of performance.

| No | Statement | Importance Average |
|----|-----------|--------------------|
| A  | Physical proof (Tangibility) |
| 1  | Physical condition (Motor is in a good condition) | 4,4 |
| 2  | Equipment (Driver uses uniform, helm and etcetera) | 4,3 |
| 3  | The amount of vehicle (The available vehicle in appropriate condition) | 4,2 |
| B  | Empathy |
| 4  | Kecakapan operator craftsmanship (Fast in understanding your problems) | 4,1 |
| 5  | Driver gives attention toward you | 4,2 |
| 6  | Driver cares with collective safety | 4,4 |
| C  | Responsiveness |
| No | Statement | Importance Average |
|----|-----------|--------------------|
| 7. | The capability to give fast serving | 4.3 |
| 8. | The fast waiting time from consumer | 4.3 |
| 9. | Driver understand your needs | 4.1 |
| 10. | The capability to reach some particular areas | 4.4 |
| 11. | Driver will deliver you into the right place in a right time | 4.2 |
| 12. | Driver deliver you in place faster | 4.2 |
| **D Reability** | | |
| 13. | Driver can be relied upon | 4.1 |
| 14. | Driver obey the traffic | 4.1 |
| 15. | You feels comfortable with any crime | 4.1 |
| **Total** | | **63.4** |

**Table 2. The evaluation toward satisfactory score on each of variables**

| No | Statement | Importance Average |
|----|-----------|--------------------|
| **A Physical proof (Tangibility)** | | |
| 1. | Physical condition (Motor is in a good condition) | 4.3 |
| 2. | Equipment (Driver uses uniform, helm and etcetera) | 4.4 |
| 3. | The amount of vehicle (The available vehicle in appropriate condition) | 4.2 |
| **B Empathy** | | |
| 4. | Kecakapan operator craftsmanship (Fast in understanding your problems) | 4.1 |
| 5. | Driver gives attention toward you | 4.2 |
| 6. | Driver cares with collective safety | 4.3 |
| **C Responsiveness** | | |
| 7. | The capability to give fast serving | 4.2 |
| 8. | The fast waiting time from consumer | 3.9 |
| 9. | Driver understand your needs | 4.1 |
| **D Reability** | | |
| 10. | The capability to reach some particular areas | 4.0 |
| 11. | Driver will deliver you into the right place in a right time | 4.1 |
| 12. | Driver deliver you in place faster | 4.4 |
| **E Assurance** | | |
| 13. | Driver can be relied upon | 4.1 |
| 14. | Driver obey the traffic | 4.2 |
| 15. | You feels comfortable with any crime | 4.0 |
| **Total** | | **62.4** |

Based on the calculation by using the IPA method, the variables that need to get the attention are the variables contained in quadrant IV. The results of the analysis show that quadrant IV is a factor that is considered important and located and it is in bad condition so that it needs attention and improvement. The degree of importance and satisfaction in this study is presented in the form of a Cartesius diagram (Figure 1). The variables that are in quadrant IV consist of waiting time for short order, ability to reach certain location and can deliver you to the right destination which is surely reliable drive.
For the calculation result with Customer Satisfaction Indeks (CSI), it shows the satisfaction of Go-Jek consumer which can be seen in table 3.

**Table 3.** Customer satisfaction index.

| No | Statement                                                                 | Satisfaction (P) | Understanding (I) | Score (S) |
|----|--------------------------------------------------------------------------|------------------|-------------------|-----------|
| A  | **Physical proof** (Tangibility)                                         |                  |                   |           |
| 1  | Physical condition (Motor is in a good condition)                        | 4,3              | 4,3               | 18,2      |
| 2  | Equipment (Driver uses uniform, helm and etcetera)                       | 4,4              | 4,3               | 18,6      |
| 3  | The amount of vehicle (The available vehicle in appropriate condition)   | 4,2              | 4,2               | 17,6      |
| B  | **Empathy**                                                              |                  |                   |           |
| 4  | Kecakapan operator craftmanship (Fast in understanding your problems)    | 4,1              | 4,1               | 16,7      |
| 5  | Driver gives attention toward you                                         | 4,2              | 4,2               | 17,7      |
| 6  | Driver cares with collective safety                                       | 4,3              | 4,4               | 18,7      |
| C  | **Responsiveness**                                                       |                  |                   |           |
| 7  | The capability to give fast serving                                      | 4,2              | 4,3               | 18,2      |
| 8  | The fast waiting time from consumer                                      | 3,9              | 4,3               | 16,8      |
| 9  | Driver understand your needs                                             | 4,1              | 4,1               | 16,6      |
| D  | **Reliability**                                                          |                  |                   |           |
| 10 | The capability to reach some particular areas                             | 4,0              | 4,4               | 17,6      |
| 11 | Driver will deliver you into the right place in a right time              | 4,1              | 4,2               | 17,1      |
| 12 | Driver deliver you in place faster                                       | 4,4              | 4,2               | 18,6      |
| E  | **Assurance**                                                            |                  |                   |           |
| 13 | Driver can be relied upon                                                | 4,1              | 4,1               | 16,9      |
| 14 | Driver obey the traffic                                                  | 4,2              | 4,1               | 17,2      |
| 15 | You feels comfortable with any crime                                     | 4,0              | 4,1               | 17,2      |
|    | **Total**                                                                | 63,3             | 263,44            | 83,22     |

From recapitulation score on the table above, so it can be calculated such as follow:
From the calculation results using CSI it gets score up to 0.83. The value is on value interval of 0.81-1.00 which means that customers / consumers feel "very satisfied" with Go-Jek's current performance. This satisfaction does not mean that Go-jek management does not need to improve the level of service. Improvement of service level is necessary as in Cartesian Quadrant IV diagram.

4. Conclusion
From the result of calculation by using IPA, there are four variables which is stated as important for the customer but the work performance is low and it is needed to pay the attention including, the time for waiting the to get instant serving, the skill to reach particular location, the driver will deliver you to the exact purpose, and driver can be relied upon meanwhile the work performance is assumed as good and need to be protected which consist of, vehicle physical condition, driver uses more detailed equipment, the total vehicle are well prepared, the operator capability in answering the problem, driver gives attention toward you, the driver cares about your safety. The capability to give the fast serving, and driver deliver you in brief time. Meanwhile for the satisfactory percentage, it shows that CSI calculation reach score up to 0.83. Those value is in 0.81 – 1.00 interval score which means that the consumer is very satisfied with Go-jek performance up to day.

According to the analysis result done, eventhough the result of presentation on this research shows the satisfactory level of highly motivated respondent but the service improvement must be done in keeping if the Go-Jek wants to make this vehicle as alternative transportation societal choice in order for the society is not transported into the other alternative

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