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by Nia Budi Puspitasari

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The Identification of Variables of Quality Influence Mobile Location-Based Service (m-LBS) (A Case Study: Go-Food Services in Semarang City)

N B Puspitasari¹, W Budiawan¹ and V Hurisandi¹

¹Department of Industrial Engineering, Faculty of Engineering, Diponegoro University. Jl. Prof. H. Soedarto, SH. Semarang 50275 Telp. (024) 7460052.

niabudipuspitasari@gmail.com

Abstract. Mobile Location-Based Service (m-LBS) is a rapid growing increasingly business type in many countries including Indonesia. One of the large companies in m-LBS business is Go-Jek, in which one of the most widely used service features is Go-Food. In its development, there are many competitors of Go-Food, so Go-Food has to improve its service quality in order not to lose the customers. Based on the preliminary studies, they show that the customers are less satisfied with the quality of Go-Food services. The purpose of this study is to determine the variables affecting the quality of Go-Food services as a whole. The data collection is obtained through the distribution of online questionnaires with the respondents of Go-Food customers in Semarang City. The data collected in this study is 306 respondents, in which this data is then processed by Partial Least Square (PLS) by using SmartPLS 2.0 software. The result of this study indicates that the predicted variables affect significantly to the quality as a whole that the customers feel toward Go-Food services in Semarang City, which are Information Quality with the influence of 14.04%, Driver Reliability 11.04%, Assurance 11.93%, Localization 10.57%, and Design Quality 10.53%. The better quality of the variables, so the better quality level of customers feeling toward Go-Food services in Semarang City. Therefore, the variables are analyzed to give the recommendations to improve the quality of Go-Food services in Semarang City.

1. Introduction

The rapid development of technology over time has led to the emergence of various types of technology-based businesses. One type of business with the use of technology where the market share is growing rapidly is the mobile location-based service [1]. Mobile location-based service (m-LBS) is a type of service that provides service functions that are adjusted based on the location of customers and the surrounding environment through mobile devices [2]. This made many business people jump in this business which resulted in increasingly fierce competition so that the company demanded to improve the quality of services it offered.

In recent years, the m-LBS business has been growing rapidly in many countries including Indonesia. where one of the big companies in the m-LBS business is Go-Jek. Go-Jek is a technology-based company in Indonesia that serves both human or goods transportation by using motorcycle taxi services where the order is through an application. Go-Jek has a fairly complete service feature where one of the most used features of its services by customers is Go-Food.



Go-Food is a service feature in the Go-Jek company that provides food delivery and ordering services with a choice of food from various restaurants through an application. In its development, Go-Jek's main competitors, Uber and Grab, began developing service features similar to Go-Food service features, namely UberEats and GrabFood. UberEats has been operating in several countries such as Singapore, Malaysia and will expand to other countries including Indonesia, while GrabFood has been operating in Indonesia since mid-2016. This is clearly a threat to the success of Go-Jek, especially the Go-service features. Food so that it demands Go-Food to improve the quality of services offered.

According to [3], service quality is customer satisfaction. The benefit of maximum service quality is that it will achieve customer satisfaction so that customers will reuse services and will help create customer loyalty. This will help guide the provision of word of mouth recommendations which can ultimately benefit service providers [4].

A preliminary study was conducted to determine the extent of customer satisfaction with Go-Food services. The preliminary study was conducted by recapitulating the rating (number of stars) by the customer and customer reviews regarding the Go-Food service where the review is available on the Go-Jek application on the PlayStore. Recap of a preliminary study of the rating (number of stars) shows that the average star is only 3.18 on a scale of five. Then, from the results of recap reviews of things that customers feel shows a variety of complaints ranging from expensive prices, frequent applications to information that is less relevant. This shows that customers are not fully satisfied with the quality of Go-Food services and many things that customers complain about. This is a threat to the loss of customers for Go-Jek, especially Go-Food if it does not improve the quality of its services.

This study aims to analyze the variables predicted to affect the quality of Go-Food services by using Partial Least Square (PLS) tools. Furthermore, an analysis is carried out to provide recommendations for improvements to improve service quality so that customer satisfaction can be achieved optimally

2. Literature Review

According to Wyckof in [5], "service quality is the expected level of excellence and control over the level of excellence to meet consumer desires". The service quality variables proposed by Parasuraman et al in [5] consist of:

1. Reliability: The ability to provide accurate and satisfying services.
2. Responsiveness: With regard to willingness and ability of employees to help consumers and respond to their requests, and to inform the service will be provided and then provide services quickly.
3. Guarantee: Competence, trustworthiness, freedom from doubt. That is, the behavior of employees is able to foster consumer trust in companies and ordinary companies to create a sense of security for consumers.
4. Empathy: Ease of relating, good communication. The company understands the problems of its customers and acts in the interests of consumers, as well as giving personal attention to consumers.
5. Physical evidence: Physical facilities provided by the company that provide customers with a sense of comfort.

Mobile Location-Based Service (m-LBS) is a type of service that provides information or functions that are adjusted based on the location of customers and the surrounding environment through mobile devices on mobile networks[6]. The m-LBS quality variable consists of [7]:

1. Information Quality (IF): This variable refers to the extent to which m-LBS provides accurate and valuable information for customers.
2. Localization (LC): This variable refers to the extent to which m-LBS provides information and functions for customers that are arranged based on their location.

3. Function Quality (FQ): Refers to the extent to which m-LBS provides embedded functionality to users to increase the usefulness of information in m-LBS.
4. Personalization (PS): Refers to the extent to which m-LBS is provided with consideration of the intended use, style, and preferences of the customer.
5. Design Quality (DQ): Refers to the extent to which m-LBS maintains a visually attractive appearance and provides a method of easy and efficient utilization of customers.
6. Reliability (RL): Refers to the extent to which m-LBS is equipped with methods and guaranteed output for the customer.
7. Connection Quality (CQ): Refers to the extent to which m-LBSs can immediately respond to customer input and be consistently provided without.
8. Interaction Quality (IQ): Refers to the extent to which m-LBS providers interact effectively with customers and assist them in solving problems related to the use of m-LBS.
9. Security (SC): Refers to the extent to which m-LBS protects location information and personal customers.

2.1. Partial Least Square (PLS)

Partial Least Square (PLS) is an alternative approach that shifts from the covariant-based Structural Equation Modeling (SEM) model to component-based or variant-based [8]. PLS was first developed by Herman Wold as a general method for estimating path models that use latent constructs with multiple indicators and to test weak theories and if there are problems with the assumption of normal data distribution.

PLS is a powerful method of analysis because of the lack of a dependency on the scale of measurement (for example measurements that require interval or ratio scales), sample size, and distribution of residuals. In addition to confirming the theory, PLS can also be used to explain whether there is a relationship between latent variables and analyzing constructs formed with reflective and formative indicators. According to [8], the purpose of PLS is to help researchers predict the model (predictive model).

3. Research model

The preparation of the research model refers to the research model by [7] by adding other variables that are considered important and in accordance with Go-Food services. The conceptual model in this study is shown in Figure 1.

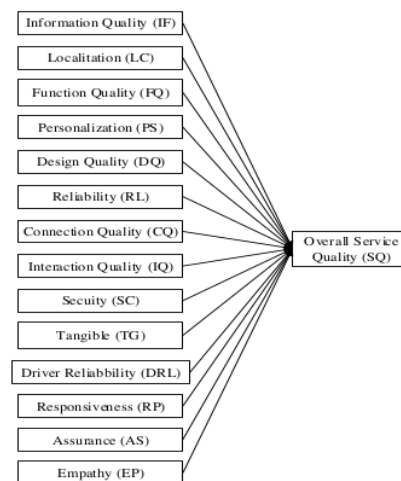


Figure 1. Research Model

The hypotheses developed in this study are as follows:

Hi: Every quality variable is predicted to have a positive and significant effect on the Overall Service Quality ($i = 1,2,3,4, \dots, 14$).

3.1. Preparation of Questionnaires and Data Collection

This study consisted of 51 question items representing the research variables developed in this study and adapted to Go-Food services. The research questionnaire was a closed questionnaire for Go-Food customers in Semarang City with answer choices using a Likert scale which seven (7) points as the measurement level of strongly did not agree to strongly agree. Data collection in this study was carried out by distributing questionnaires directly by researchers using internet media using the site docs.google.com.

3.2. Testing of Research Instruments

Instrument Testing Research was conducted to determine the quality of the data used through the validity and reliability test of the data.

3.3. Data Processing with PLS

Data processing using the PLS method is done with the help of smartPLS 2.0 software.

4. Results

The critical value for testing validity can be seen in table r with a significance level $\alpha = 0.05$ and the amount of data $N = 306$, then the critical value is obtained at 0.112. The results of the validity test using SPSS indicate that all variables have a calculated r value above 0.112 so that it can be said that all instrument questionnaire statements produce valid data. Then for the reliability test if the cronbach's alpha value is > 0.6 , then the research instrument is reliable. The reliability test results using SPSS indicate that all variables have a cronbach's alpha value above 0.6 so that it can be said that all variables produce reliable data.

The results of hypothesis testing using SmartPLS 2.0 can be seen in Table 1. There are 5 accepted hypotheses, namely Hypotheses 1,2,5,10 and 13 because they have a positive and significant influence on Overall Service Quality. Whereas in Hypotheses 3,4,6,7,8, 9,11,12 and 14 rejected because it does not have a significant and positive influence on Overall Service Quality.

Table 1. Hypothesis Test Results

Hypothesis	Path Coefficient	T-Stat	Result	Influence
IF -> SQ	0.2027	2.4986	H1 Received (positive, significant)	14.04%
LC -> SQ	0.1725	2.6288	H2 Received (positive, significant)	10.57%
FQ -> SQ	-0.0929	1.0814	H3 Rejected (negative, not significant)	-5.98%
PS -> SQ	-0.0254	0.3293	H4 Rejected (negative, not significant)	-1.48%
DQ -> SQ	0.154	2.026	H5 Received (positive, significant)	10.53%
RL -> SQ	0.0479	0.9883	H6 Rejected (positive, not significant)	2.25%
CQ -> SQ	0.021	0.3153	H7 Rejected (positive, not significant)	1.23%
IQ -> SQ	0.2027	2.4986	H8 Rejected (positive, not significant)	-2.10%
SC -> SQ	0.1725	2.6288	H9 Rejected (negative, not significant)	4.75%
DRL -> SQ	-0.0929	1.0814	H10 Received (positive, significant)	11.04%
TG -> SQ	-0.0254	0.3293	H11 Rejected (positive, not significant)	1.29%
RP -> SQ	0.154	2.026	H12 Rejected (positive, not significant)	0.80%

AS -> SQ	0.0479	0.9883	H13 Received (positive, significant)	11.93%
EP -> SQ	0.021	0.3153	H14 Rejected (positive, not significant)	1.30%

4.1. Recommendation

Recommendations for improvement on variables that have a significant influence on Overall Service Quality that refers to previous studies. Following are the recommendations given in this study on Go-Food services:

1. Information Quality. The recommendations given are based on research conducted by [7] on the Information Quality variable:
 - Emphasizing information management and agreement with Go-Food partners.
 - Establish cooperation with local information providers in each region. Local information providers can provide information on geographic data, road construction and others in certain areas so that it can be translated into information for customers, drivers and related parties so that it can facilitate the service process.
2. Assurance. Recommendations given are based on Assurance variables:
 - Provide guidance to drivers to hold knowledge and require drivers to take control of the area in the City's operating area [9] and [10].
 - Paying attention to facilities by adding tools to support the quality of the service process [11]. This can be done by adding a food box to the driver to maintain the quality of food & beverage customers.
 - Implementing a standard for drivers such as reward and punishment in order to provide the best service to customers [12].
 - Conduct regular evaluations of driver performance [13]. This is to determine the performance of the drivers such as the driver rating, the number of times the driver cancels the order and so on so that the drivers can follow up.
- Design Quality. Recommendations given based on Design Quality variables:
 - Pay attention to the main appearance and color clarity as well as regularly update (update) the design [7] and [14].
 - Noting the level of ease of use of the Go-Food application by customers [14][14]
 - Pay more attention to structuring features to make them look neater [14].
 - Make corrections related to technical problems that usually appear in the application, for example, such as ordering or jamming [14].

If this is considered to be done well, maintaining is the right thing as recommended in the research conducted by [15].

3. Localization. Recommendations according to a study conducted by [7] on the Localization variable is that the m-LBS company must be able to manage their LC services to a location as precisely as possible. Therefore, the Go-Food must be able to classify information based on the customer's location or location that the customer wants to know as precisely as possible. In addition, the Go-Food party should be able to automate that the closest drivers to the restaurant are the customers who will take orders from customers. If these things have been done correctly by Go-Food, controlling and maintaining is the right thing.
4. Driver Reliability Recommendations given based on the Driver Reliability variable:
 - Gives direction to drivers to pay more attention to the speed and timeliness of sending orders through the shortest route [9].
 - Implementing a standard for drivers such as reward and punishment in order to provide the best service to customers [12].
 - Integrate communication between customers, drivers and Go-Food partners through a system to ensure error-free transactions [16] and [17],

If the recommendations in this study are considered important, relevant and considered to have been well implemented by Go-Food, controlling and maintaining them is the right thing. As according to [18] states that improving quality can be through quality control and maintaining good things that are already owned.

5. Conclusion

Mobile Location-Based Service (m-LBS) is a rapid growing increasingly business type in many countries including Indonesia. One of the large companies in m-LBS business is Go-Jek, in which one of the most widely used service features is Go-Food. In its development, there are many competitors of Go-Food, so Go-Food has to improve its service quality in order not to lose the customers

The results of processing the collected data using SEM-PLS tools indicate that the significant and positive effect on the overall quality that customers feel towards Go-Food services in Semarang City is Information Quality with an influence of 14.04%, then Driver Reliability of 11.04%, Assurance of 11.93% , Localization is 10.57% and Design Quality is 10.53%. The better the quality of these variables, the better the level of quality that customers feel about Go-Food services in Semarang City. Furthermore, an analysis of these variables is carried out so that analysis of proposed improvements can be carried out in reference to previous studies to improve the overall quality of Go-Food services. Future research is expected to continue this research by identifying variables with greater precision, broadness and taking into account demographic variables on perceived quality of Go-Food services.

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