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PREFACE

Assalaamu ‘alaykum warahmatullahi wabarakaatuh,
The CITSM 2017 is in the general area of communication and information technology. It provides a forum for presenting and discussing the latest innovations, results and developments in IT Management & organizations, IT Applications, Cyber & IT Security, and ICT. The main objective of this conference is to provide a forum for engineers, academia, scientist, industry, and researchers to present the result of their research activities in the field of Computer and Information Technology. The primary focus of the conference is to create an effective medium for institutions and industries to share ideas, innovations, and problem solving techniques.

There are almost 205 papers submission and only 107 papers are accepted and 101 papers have been registered. Accepted papers will be presented in one of the regular sessions and will be published in the conference proceedings volume. All accepted papers are submitted to IEEEXplore. IEEE Conference Number: # 41401, IEEE Catalog Number: CFP1737Z-PRT, ISBN: 978-1-5386-2737-2, CFP1737Z-USB, ISBN: 978-1-5386-2738-9

On behalf of the CITSM organizers, we wish to extend our warm welcome and would like to thank for the all Keynote Speakers, Reviewers, authors, and Committees, for their effort, guidance, contribution and valuable support. Last but not least, thanks to all lecturers and staffs of the Faculty of Science & Technology, UIN Syarif Hidayatullah Jakarta and STIKOM BALI and other parties that directly and indirectly make this event successful.

Wa billahi taufiq wal hidaayah.
Wallahul muwaffiq ila aqwamit-tharieq.
Wasalaamu ‘alaykumu warahmatullahi wabarakaatuh.

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Abstract- **Currently, transportation services using a mobile phone application based online is also highly demanded by women. Transport facilities transport booking services online, security is guaranteed by which they can determine the profile of the driver who brought him and faster to the destination and has a varied selection and competitive prices with various discounts. The purpose of this study was to determine the factors that influence female passenger satisfaction in using online transportation services in Jakarta. Selection of the use of modes of transportation for women has a lot of criteria and alternatives must be considered. The system was built using Importance-Performance Analysis (IPA) to identify any factors that must be presented by an organization to the satisfaction of service users. The results of the assessment of the level of interest and performance evaluation results will be obtained by a calculation of the degree of correspondence between the level of interest and the level of implementation by service providers. This research using descriptive analysis summarizes the results of the survey and interviews of 67 women transport users online. The results showed some of the criteria chosen by women passengers including tariffs, security, trust, comfort, and speed.**

Keywords—Importance-Performance Analysis Method; Public Transport Based Online; Multi-Criteria Decision Making; Women

I. INTRODUCTION

Online transportation has become a solution to the problem of road congestion in big cities. In addition to the relatively cheap price, online transportation is also flexible and always provide confirmation to prospective passengers, especially female passengers [1].

Female passengers as users of online transportation services will take advantage of application services on smartphone owned. By filling in personal data and telephone numbers online. The online transport company (applicator) can know the name, telephone number, and address of the passengers.

With online data provided by consumers will result in data problems on personal data and passenger safety and should be given protection. The weakness of passenger data security is still less secure so that frequent privacy violations can lead to other criminal acts such as murder, torture, theft, robbery and so on. In addition to data security also need a standardization of safety about the state of the vehicle used physically and the behavior of the driver.

The use of information technology that shows the location within the smartphone is used by passengers and drivers to get the territory, arrival time, tidiness and travel duration is also estimated based on the optimal route. [2]

To address security flaws in online transportation an agreement between the government and all companies of the online transport service provider (applicator) can provide security and convenience to the passengers in addition to the benefits of the transportation business. By conducting a process of recruitment of the driver well such as the identity as well as the driver's background and the quota-division policy in accordance with the level of passenger needs. if over quota there is an indication the driver find it difficult to get passengers. Every vehicle used as an online transport must have a monitoring device or dashboard containing the driver's identity and vehicle number. So that the security and comfort of passengers more secure.

The satisfaction and loyalty of female customers in the use of online transportation can be measured using the method of Importance-Performance Analysis (IPA) is a tool to measure the level of one's satisfaction over the performance of others by comparing the level of consumer expectations with the performance performed. If the level of expectations is higher

than the performance of the company means not yet reached the level of consumer satisfaction [3].

II. THEORETICAL REVIEW

The high congestion in the big city gives the impact of uncertainty on the society especially the female users that is the risk of time, delay, and risk of cost and personal safety. Female passengers usually prefer brands from online transport, the prestige of the wearer. Brands like names, signs, symbols, or designs, or combinations of them, intended to identify, goods or services of one seller or group of sellers and to distinguish them from competitors. the brand image refers to the schematic memory of a brand. It contains the interpretation of the target market attribute of the product, the benefit of the use situation, the user, and the characteristics of the producer/marketer. This is what people think and fall when they hear or see the brand name [5].

2.1. Public Transport Based Online

Online transport is an Internet-based transportation service in every transaction activity starting from order monitoring, payment and assessment of the service itself. This online transportation is very beneficial for the special community of female passengers. Keungulan transportation-based services such as information technology, among others, transparent rates with easy payment, the identity of the driver who can be known, travel routes that can be monitored through smartphone applications and free facilities in the form of masks and head coverings that must be offered by the driver to the passenger [6].

Technology is the ability to work on something of high value, either benefit or selling point. The state of the function of a technology that raises the risks of use will be a problem to users and their owners [7]. Uncertainty can be felt by the public about transportation as well as traffic conditions that demand the community to respond to this problem.

the factors that influence the satisfaction of urban transport service users:

1. Security
   The driver must have information about identities such as photos, names, and phone numbers. This identity is displayed so that female passenger can find out the vehicles used by their order.
2. Convenience
   The rider phone number provided is useful if the passenger wants to contact the rider either by phone or SMS (Short Message Service). The rider's self-transparency data is very useful to provide a sense of security and comfort to passengers and can report to the relevant parties when bad things happen to him as long as he becomes a passenger.
3. Trust
   Thai people choose to use taxi-based taxi mode of application technology than conventional taxis because the application is able to provide the level of Importance as for consumers to assess the level of importance of service quality level of service The average weight of the performance appraisal performance better [8].
4. Speed
   Delays are also a problem that is often faced by female passengers. This shows the uncertainty in terms of time. The existing conventional public transport has many problems with timeliness. Transportation used to stop to look for other passengers in a long time often lead to late arrival to the destination. Should change to public transportation to reach a location and there is no certainty of how long to wait for conventional transportation modes to come.
5. Travel Fee (Tariff)
   Conventional transportation has not yet implemented an effective route pattern that is able to encourage rapid transfers between modes so that the vehicle mode is less efficient in time. the uncertainty of tariffs payable by passengers makes it uncomfortable to use conventional transportation. it is difficult to predict tariffs with uncertain travel conditions.

2.2 Importance Performance Analysis Method

Importance-Performance Analysis (IPA) is a method that can show the attributes of products/services that need to be improved or reduced to maintain customer satisfaction, the scale is relatively easy, low cost and the results are relatively easy to interpret [9]. Stages performed in the IPA analysis are According: [10]

1. Weight
   A scale used in this research is the Likert scale which is measurement of attitude, belief, value, and opinion of a user / consumer to an object condition with 5 (five) weight of assessment of the expected level of interest and also perception evaluation to the quality of online transportation.
2. Quadrant analysis
   Calculates the average importance and performance ratings for each attribute by the formula:

$$\overline{Xi} = \frac{\sum_{i=1}^{k} Xi}{n}$$

$$\overline{Yi} = \frac{\sum_{i=1}^{k} Yi}{n}$$

$\overline{Xi}$ = The average weight of the performance appraisal level of the i-th attribute
$\overline{Yi}$ = The average weight of the rating level of importance of the i attribute
n = number of respondance

Calculates the average level of importance and performance for the overall attribute by the formula:

$$\overline{\overline{Xi}} = \frac{\sum_{i=1}^{k} \overline{Xi}}{n}$$

$$\overline{\overline{Yi}} = \frac{\sum_{i=1}^{k} \overline{Yi}}{n}$$

Where:

$\overline{\overline{Xi}}$ = The average weight of the performance appraisal level of the i-th attribute

$\overline{\overline{Yi}}$ = The average weight of the rating level of importance of the i attribute

n = Number of attributes

This value $\overline{\overline{X}}$ intersects the performance attribute axis (X), the value $\overline{\overline{Y}}$ of the attributes attribute axis (Y) then the performance weight and the importance of the attribute are inserted into Cartesian diagram in Figure 1.

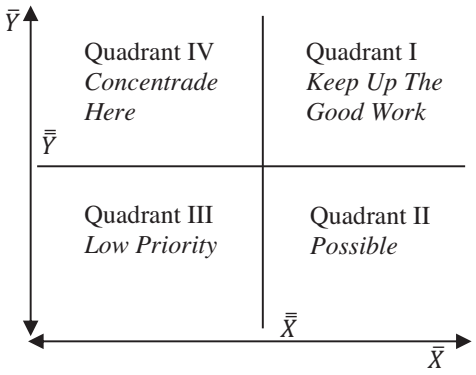

Fig. 1. Division of quadrants of Importance Performance Analysis. Resources (Brandt, 2000)

Score of importance and performance level is used to determine the average value of points in the quadrant based on the size of importance and the quality/space condition (performance) is mapped into 4 quadrants as follows:

1. Quadrant 1: Keep Up The Good Work, shows that the attributes of online transport security are seen as important by female passengers as the basis for decisions on performance and service quality are excellent.
2. Quadrant 2: Possible Overkill, shows that the attributes of the convenience of online transport are less important for female passengers, but have good quality.
3. Quadrant 3: Low Priority, shows that some attributes of online transport, trust have decreased, since both the level of importance and service quality is lower then the average value.
4. Quadrant 4: Concentrate Here, shows that the attributes of speed and the rate of online transportation is very important in the decision of female passengers, but do not have good quality.

2.3 Multi Criteria Decision Making (MCDM)

Multi-Criteria Decision Making (MCDM) is a decision-making technique based on several existing alternatives or theories that explain the decision-making a process by considering many criteria. MCDM It contains elements of attribute, objective, and purpose. Attribute explains, characterizes an object. For example age, domicile, work and so on. The objective states the direction of improvement or likability of attributes, such as price, location, bonus and partly. The objective is an attribute that becomes an objective if the attribute is given a certain direction. Goals are determined first. The route path that will be taken by the application of online transportation in accordance with the timing of driving during the peak hours.

Implementation of MCDM methods in the safety of female passengers in using online transport should be systematically explored. This method explains some system contributions that involve several MCDM methods [11]. This system has many domain apps.

..On the other hands, a comprehensive analysis will facilitate the understanding and development of systems that can identify the dimensions that differentiate, explain, and categorize multi-criteria system recommenders, based on the existing taxonomy and categorization used in the analysis and classification of online user decision samples. [12].

Problems in MCDM can be formulated as follows: The study begins with observation and implementation of women's use of the Study beginning with the observation and implementation of women's use of online transport to see how important the selection of vehicle modes used is due to the use of online data, recommended the smartphone

Applications and driver features caused by a failure of vehicle mode selection, in this study, used 67 female respondents. Data is processed by using descriptive analysis method to present the summary of a survey result questionnaires and interviews conducted manually on the existing mode of transportation online in Indonesia.

This section explains briefly on the Importance Performance Analysis Method, Public Transport Based Online, Multi-Criteria Decision Making, Women and also investigates some previous research related to online transport. This section will also explain the methodology used in this study :

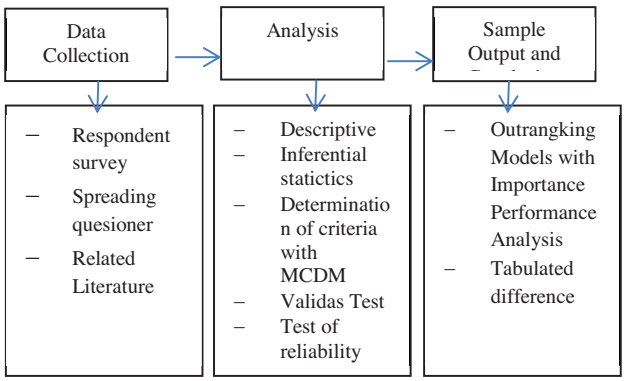

Fig. 2. Flow chart research

III. IMPLEMENTATION AND RESULTS

Coletting data

Initial step survey research respondents and spread questioner as well as searching related research literature on the safety of online transportation used by female passengers. A total of 67 respondents answered the survey. The group is broken down into 3 age criteria, employment, and range of online transportation usage. (N= 29), 31-40 years (N = 17), > 40 years (N = 14), employment of civil servants (N = 14), private employers (N = 40), others (N = 13), with female passengers using daily transportation (N = 48) and not daily (N = 19).

Analysis

Descriptive statistics will be used for all survey items. A simple summary and analysis through graphical representation will test validity and reliability for determining age, employment and use of online transport.

Data Analysis Method used is Validity and Reliability, Test validity is used to measure the validity of the questionnaire. For that, Pearson Product Moment has been used. If the probability of correlation is less than 0.05 (5%) then the research instrument is considered valid. This reliability test in this study using Alpha Cronbach. Thus the question states a valid item.

Result of the calculation (Tki) and average of actual rate and expectation. The result of the transformation of data obtained from the questionnaire respondents, then calculated to know the level of compliance and the actual average and expectations among respondents, the results of the following calculation.

TABLE I
Data Analysis Results (Importance Performance Analysis)

	Weight Performance	Weight Interests	Level Conformity	x	Y
A1	288	317	90,85%	4,30	4,73
A2	291	301	96,68%	4,34	4,49
A3	256	315	81,27%	3,82	4,70
A4	219	307	71,34%	3,27	4,58
A5	228	233	97,85%	3,40	3,48
A6	255	262	97,33%	3,81	3,91
A7	217	229	94,76%	3,24	3,42
A8	290	290	100,00%	4,33	4,33
Average Conformity Level			91,26%		

The results of a user perception survey will be presented via a Cartesian diagram form from respondents who answered similar questions to be combined or presented side by side for easier comparison and application of descriptive statistics. Based on the data, there were 67 respondents < 20 years old (7) with percentage of 10,45%, 21-30 years old (29) with percentage (43,28%), 31-40 years (17) with 25,37% , 40 years old (14) with percentage of 20.90%, civil servant job 14 with percentage 20.90%, private employee 40 with percentage 59.70%, other 13 with percentage 19.40%, with female passengers using transportation every day (480) with a percentage of 41.79% and not daily (19) with a percentage of 58.21%. With the safety criteria for female passenger online data, it is desirable to avoid crime, robbery or to murder with a weighting value of interest 301, the working weight of 291 and the corresponding level of respondents 96.68%.

Cartesian diagram

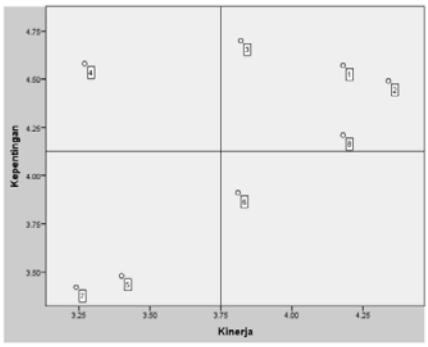

Figure 3. Diagram Cartesian

The results of the Cartesian diagram show the following results:

1. Quadrant I is a quadrant that has a very low level of satisfaction so that a top priority for improvement. The five attributes included in quadrant I, in order of priority level are as follows: The online transport application should be able to minimize the delay of time and delay risk, it can provide online data of female passenger traffic at the time of use and the driver of online transportation must have information about identity such as photo, name, and phone number, as well as the existence of ordering transactions, track monitoring, payment and valuation of services, are further improved.
2. Quadrant II is a quadrant that is expected by the customer and has been in accordance with the perceived by the customer. Attributes in Quadrant II can also Online transport applications can provide services quickly and appropriately to handle problems like passenger forgot the password.
3. Quadrant III is a low priority quadrant because it contains attributes that are considered less important by customers and in fact, its performance is not too special. The order of attributes according to the priority level to be improved is that female passenger can know the identity of the driver and the vehicle used through the smartphone. The online transport application provides a secure and

convenient transaction processing and payment transaction fee for the total uncertainty of travel expenses.

4. Attributes in quadrant IV have low importance but have a high-performance level. The order of attributes according to the priority level to be reduced its performance because it is considered excessive is as follows: Availability of online service information center on female passenger complaints.

IV. CONCLUSION

The result showed that the level of conformity (Tki) Total 91.26% compliance rate of less than 100%, it can be said that the quality of service has not been in line with expectations. The attribute that has the lowest value indicates unsatisfactory service performance on attribute A4 which connects as one of the features in the information system with the highest level of conformity (Tki) 71.34% and the second-order attribute A2 on the site. community atmosphere with the highest level of conformity (Tki) IE 96.68%. This study assumes a 91.26% confidence interval. In applied practice, the confidence interval is usually expressed at a 91.26% confidence level. The p-value less than 0.05 (error margin 5%) means more than 91.26% sure that the two sample means are different. Therefore reject the null hypothesis. The safety and convenience of online transformation system for female passengers is the strongest factor chosen, to overcome these weaknesses made an application corresponding to the vehicles ordered by the vehicles that come on when picking up female passengers and the emergency SOS button on each application applicator, enabling the driver partners and passengers to request quick assistance in their application when such incidents occur so that quality and standards of service and customer satisfaction are ensured.

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