

CHAPTER 3

METHOD OF DATA COLLECTION AND ANALYSIS

The writer used a quantitative method for this research to address the prospects in the use of online parking reservation whether or not the application has a business prospect. The writer used questionnaires to collect the data that were analyzed using the descriptive statistics in SPSS. Cresswell (as cited in Marvasti, A. 2018) noted that a quantitative method is started by finding a research question and involves the hypothesis and literature review to answer the research question by collecting and analyzing the data that can be a prediction or explanation in the form of numbers.

3.1 Data Collection

a. Respondents

In this study, the writer examined people's interest in the Online Parking Reservation. According to Cresswell (2013), there are three methods in research design: quantitative, qualitative and mixed methods. To examine those research questions, the writer chose to use a quantitative method because of the above-mentioned reasons. The writer distributed the questionnaire to 100 people in Semarang. The writer used a convenience sampling in which the writer only collected a few of respondents by recruiting friends and relatives. Afterward, the respondents helped the writer distributed the questionnaire to others.

b. Instrument

The writer used a close-ended questionnaire as the instrument to explore business prospects on parking issues. The writer used the instrument by asking people to respond to a series of statements on the design of the mobile application, the difficulty that occurs in a parking lot, and interest in using the mobile application. The Likert type with fixed choice response formats was used and it was designed to measure attitudes or options (Boone, Boone, & Virginia, 2012). This type of questionnaire was used to measure levels of agreement/disagreement. The options of Likert Scale that the writer used were as follows:

SD : Strongly Disagree (1)

D : Disagree (2)

A : Agree (3)

SA : Strongly Agree (4)

The writer would use the score for each option (1-4) to be inputted into IBM SPSS. The smaller number like 1 represents the negative responses towards the statement. In contrast, the bigger number represents favorable response. After that, the writer analyzed the data into a descriptive statistics with indicators such as means and standard deviations.

c. Procedure

This research conducted the procedures as follows:

1. Designing a prototype

The writer made a mobile application available for Android.

2. Designing questionnaires

While waiting for the application to be finished, the writer designed questionnaires. The writer chose a closed-ended questionnaire because it both saved time and energy considering the number of the participants answering questionnaires were 100 people using a convenience sampling. The writer made a questionnaire consisting of 17 statements with 4 options. The statements were about the design of the application, the difficulty that occurs in a parking lot, and interest in using the application.

3. Having a pilot study by distributing the questionnaire to 32 respondents who live in Semarang.

4. Analyzing the validity and reliability of the questionnaire using SPSS

The writer used the R table as the validity level. The validity value of 32 respondents is 0,361. The statement is claimed as valid if the value of the significance is higher than the value in R-table. The formula used in this validity check is $df = n - 2$. N is the total participants of the pilot study. The writer used 32 participants which means $df = 32 - 2 = 30$ with the significance level of 5%. In checking the data reliability, the

writer used Cronbach's Alpha. A statement is considered as reliable when the value is more than 0.60 which can be seen as follows.

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Figure 3.1 Cronbach Alpha Reliability Level

Table 3.0

Validity Data Result

No.	Statement	Rvalue	Rtable	Information
1	Saya akan merasa terbantu jika sistem parkir di Mall sekarang bisa diperbarui untuk mengetahui jumlah parkir tersedia	0.608	0.361	VALID
2	Saya senang jika ada aplikasi yang memberi tahu jumlah parkir yang tersedia di Mall	0.555	0.361	VALID
3	Saya senang jika bisa memesan tempat parkir sebelum sampai di Mall	0.538	0.361	VALID
4	Saya senang jika aplikasi untuk membantu mencari parkir di Mall dapat didownload dengan gratis	0.528	0.361	VALID
5	Saya pergi ke Mall lebih dari 3x dalam 1 bulan	0.302	0.361	INVALID
6	Mencari tempat parkir di Mall itu susah	0.447	0.361	VALID
7	Orang lebih memilih naik Go-Jek / Grab ketika pergi ke Mall karena mereka berasumsi mencari parkir itu susah	0.373	0.361	VALID

8	Saya menghabiskan lebih dari 5 menit saat mencari parkir di Mall	0.509	0.361	VALID
9	Saya sering lupa posisi parkir kendaraan saat di Mall	0.379	0.361	VALID
10	Saya memperhatikan jam kedatangan di karcis untuk menghitung perkiraan biaya saat keluar dari Mall	0.511	0.361	VALID
11	Saya mencari parkir di area Mall untuk kunjungan singkat	0.481	0.361	VALID
12	Saya mencari parkir di luar area Mall dengan harga yang lebih murah untuk kunjungan yang lama	0.483	0.361	VALID
13	Harga parkir Mall di Semarang mahal	0.598	0.361	VALID
14	Pembayaran karcis parkir di Mall secara tunai menghabiskan waktu	0.514	0.361	VALID
15	Orang menggunakan jasa parkir Valet untuk menghemat waktu	0.283	0.361	INVALID
16	Orang menggunakan jasa parkir Valet karena praktis	0.558	0.361	VALID
17	Harga jasa parkir Valet mahal	0.589	0.361	VALID

Reliability Statistics

Cronbach's Alpha	N of Items
.777	17

Figure 3.2 Reliability Data Result

From the Validity Data Table, 2 out of 17 statements were invalid. The writer initialized an idea to edit the invalid questions to make respondents' understanding on the statements better. The idea worked well where during the process of editing the 2 statements, the writer kept distributing the questionnaires to the respondents, Finally, all 17 statements became valid when it was tested to 100 respondents.

3.2 Method of Data Analysis

The writer analyzed the data in questionnaires collected from respondents as the only instrument using SPSS to explore the business prospects whether or not the application has a business prospect. The writer analyzed the survey data using descriptive statistics to measure the average means of questionnaire responses. The higher the means suggest the people's positive responses about the mobile application of Online Parking Reservation Start-up. However, low means suggest the more people are less attracted to the parking application. In general, it can be illustrated as follows:

>3 = positive

3 = neutral

<3 = negative

This explains that if there are more means above 3, it means the more positive people's responses towards the prospects of online parking reservation, and if the average means go below 3, people are showing negative responses towards the parking application. The statistics also measured mode to understand the most popular responses and the standard deviation to find out the spread of the responses. The writer presented the finding in the tables with interpretation.

3.3 The Mobile Application Overview

Parkirboss is a mobile application that allows users/people to be able to book parking in Semarang, making it faster, easier, and convenient to find and reserve your vehicles. Currently, the application is still in prototype and it will be soon launched to the public for market testing. Parkirboss will give users access to a lot of parking lots starting in Semarang. Whether you are going for a business commute, finding restaurants & hospitals, looking for cinema, Parkirboss will try to provide the parking spots nearby the desirable locations.

How will the application work?

1. Search : Enter the place and time you need parking. Afterward, compare the price of parking spots near your destination.
2. Book : Fill in all the required data and book. You have had your parking spot already.
3. Park : Follow the directions on your parking pass of the selected parking spots. Follow the instructions and validate your arrival to the officers in place.