OPTIMIZING PASSENGER COMPLIANCE IN ORDER TO STREAMLINE TRAFFIC IN THE DROP ZONE AREA OF EL TARI KUPANG AIRPORT TERMINAL

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ABSTRACT

El Tari Airport supports the development of the city of Kupang, so the facilities provided affect passenger satisfaction. In assisting passengers, the facilities provided include landside facilities and airside facilities. (airside). Passenger non-compliance in using ground facilities, particularly in the airport drop zone area, often results in operational activities at the airport being hindered. This research employs descriptive quantitative research with data collection techniques using questionnaires, observations, interviews, and literature studies. The results of this study indicate that passenger compliance in using drop zone facilities is still lacking or not in accordance with the applicable regulations. One of the efforts that can be made is to change the flow of vehicles to reduce congestion in the drop zone area.

Keywords: compliance, *drop zone, passengers.*

1. INTRODUCTION

There are many considerations from the public in choosing a mode of transportation to help with daily activities. Air transportation has advantages in terms of time efficiency. However, it still pays attention to safety and security factors for its users. Therefore, the development of air transportation must be considered and supported by supporting facilities and infrastructure.

The availability of facilities and infrastructure at airports plays an important role, namely making it easier for passengers to carry out activities there. In PM 77 of 2015 it is stated that airport facilities will be used for airport and aviation operational needs consisting of infrastructure, equipment and airport utilities [1]. Standardization of airport facilities includes requirements standards, technical standards and feasibility standards. Of course, these facility standards will provide sufficient service and flight safety.

These facilities and infrastructure consist of landside and airside facilities which are important access for passengers before boarding an airplane. The land side area is in the airport entrance access area, vehicle parking and terminal buildings which can still be reached by anyone. One of the land side facilities is the curbside area which is divided into 2 parts, namely the drop zone and pick up zone.

These two places will be places that connect the terminal building with land transportation. Its function is as an area for picking up or dropping off passengers who are leaving or leaving the airport. This research only focuses on the drop zone area. The drop zone is used as a place for vehicles to stop temporarily for a relatively short time.

The problem that often occurs in this area is the accumulation of vehicles due to lack of driver compliance in using the drop zone facilities. As stated in the Decree of the Directors of PT. Angkasa Pura I Number 87 of 2018, the average time for vehicles to be in the drop zone and pick up zone is ideally 3 minutes [2]. Apart from that, the number of lanes that should be available at each airport has 2 inside lanes, 1 maneuvering lane and 1 vehicle moving lane. However, the facts on the ground are that the number of lanes available is only 1 inside lane, 1 moving lane and 1 moving lane for vehicles. This can result in an increase

in the volume of vehicles stopping in the drop zone area and drivers tend to abuse the function of the existing lanes. When the drop zone is full, drivers usually drop off passengers in the maneuvering lane or moving vehicle lane.

Based on the previous description, the problem formulation is the basis of this research is :

1. How is passenger compliance in using the facilities in the drop zone area of the El Tari Kupang Airport terminal?
2. What efforts can be made to increase passenger compliance in order to smooth traffic at the Kupang El Tari Airport terminal?

The aim of this research is to find out how passengers comply in using the drop zone facilities and what efforts can be made to optimize this compliance.

2. LITERATURE REVIEW

Compliance

Compliance theory states that a condition where a person obeys an order or rule that has been set [3]. Obedience is supported by a person's understanding and self-awareness which will create positive behavior to achieve a goal. So compliance in using the drop zone facility at the El Tari Kupang Airport terminal is a form of behavior that will create smooth traffic so that passenger service will flow.

Someone can be said to be obedient if [4]:

1. Trust means that someone understands and believes in the applicable norms, so there will be a tendency to obey them.
2. Accept, someone who has accepted the existence of rules, both written and unwritten.
3. Carrying out (act), someone has applied these norms in everyday life.

Traffic Compliance

Traffic compliance is used to guide road users to comply so that it has a good impact and reduces incidents such as traffic accidents. The creation of safe and orderly traffic will result in smooth traffic and someone who violates the rules will receive sanctions from those in power.

Factors that influence individuals towards traffic compliance are [5]:

a. Individuals comply with sanctions given by officers.

b. Self-awareness of traffic safety among road users.

c. An attitude of mutual respect between road users.

Other things that influence traffic compliance are as follows [6]:

a. Driver's understanding of the rules.

b. Drivers' attitudes and behavior towards traffic compliance

c. There is a speeding program.

Land Side

This area is open to the general public. Law number 77 of 2015 explains that this area is an area that is not directly related to flight operational activities. This area includes the terminal, curbside and vehicle parking area.

The curbside area is in front of the terminal building which is usually used as a place to drop off and pick up airplane passengers. Often referred to as the drop zone and pick up zone areas. Of course, in the regulations of the Decision of the Directors of PT. Angkasa Pura I number 87 of 2018 standardizes the number of lanes available at each airport, the size of the lanes and the shape of the markings, the function of the lanes, as well as other supporting facilities.

The function of the inside lane is the lane on the curbside as a place for vehicles to stop temporarily using the nose-to-tail method to drop off or pick up passengers. Has a width of 3 – 3.5 meters. However, due to the tendency of vehicle drivers to double park and accommodate the vehicle opening the door to drop off passengers with sufficient space so that it does not interfere with movement, several airports have widened it to 5 meters.

The maneuvering lane functions as a path for vehicles to maneuver out of the inner lane after picking up or dropping off passengers towards the exit from the curb. Ideally it has a minimum width of 3.5 meters. A vehicle moving lane is a lane in the curbside area which functions as a lane for vehicles to continue without stopping in the curb area. Ideally it has a width of 3.5 meters.

The function of the markings is to direct traffic and act as a barrier to important areas. Signs are part of road equipment in the form of symbols, letters, numbers, sentences, or a combination thereof. They are usually used as warning signs, prohibitions, orders, or instructions for road users [7].

Standard markings in the drop off zone area are as follows:

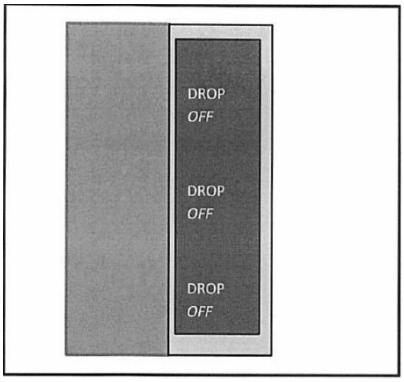


Figure 1: Drop off zone marking

Parking lots in terminal areas usually have limited space, forcing the road to be used as a parking lot and causing traffic jams. Traffic jams usually start from obstacles, delays, stagnation in the traffic lane [8].

Parking spaces available at the airport will make it easier and more helpful for passengers who will use transportation services or who will only carry out activities at the airport. The standard layout for parking lots is as follows:

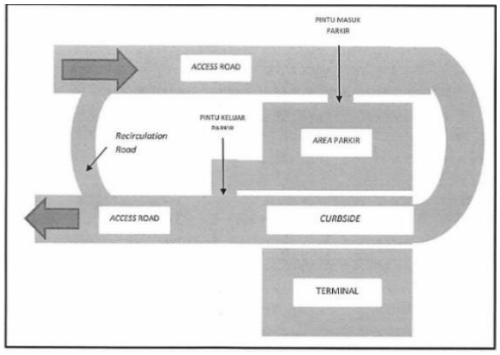


Figure 2: Layout Standardization

3. METHOD

3.1 Research Design

This research uses descriptive quantitative research methods which only describe, study and explain a phenomenon with data (numbers) as they are without relating or testing certain hypotheses.

The descriptive research method is a problem solving procedure by describing the research object in its current state based on the facts as they are, after which they are analyzed and interpreted [9]. The quantitative method is research data in the form of numbers as concrete data and then calculated using calculation test tools with the aim of obtaining results and conclusions [10].

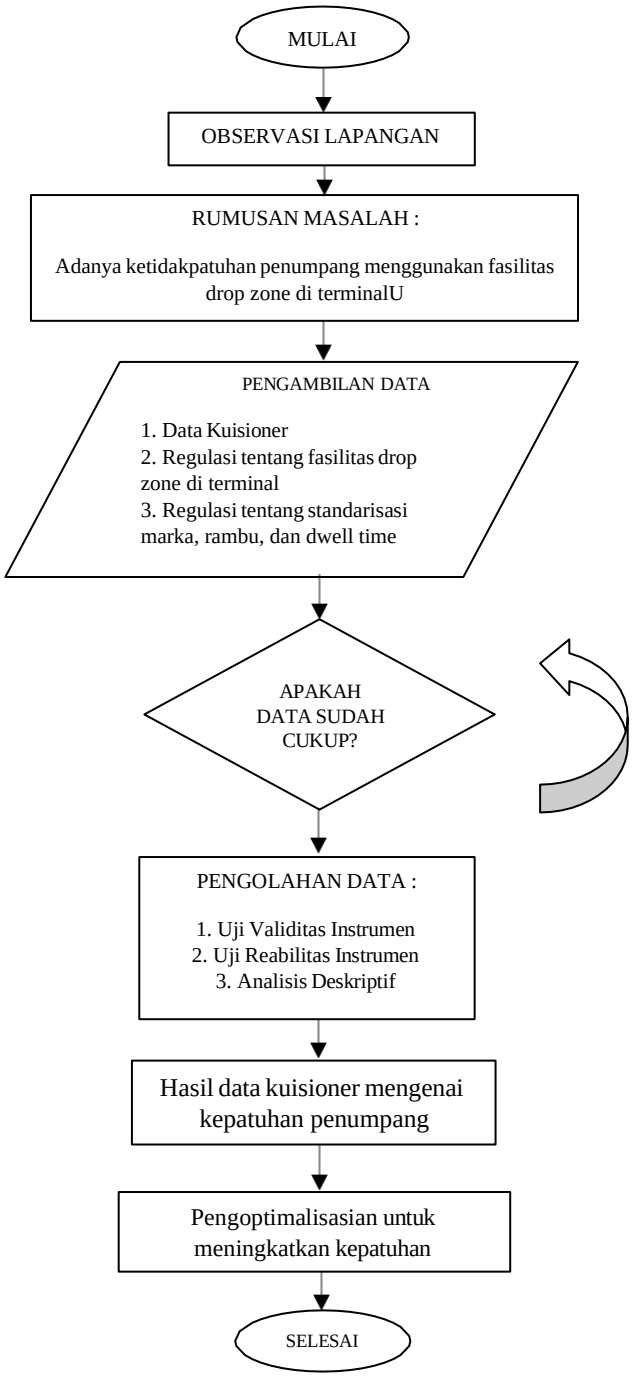


Figure 3: Research Design

Data that uses quantitative calculations is data to determine the passenger compliance index in using the drop zone facilities at the El Tari Kupang Airport terminal. Data was obtained from the results of a questionnaire distributed via Google Form media to 30 respondents as samples because the subjects were less than 100 respondents so it was better to take all of them so that the research was population research [11]. So the sample consisted of 10 passengers, 10 Landside Service Officers (LSO), and 10 PRIMKOPAU as parking attendants at El Tari Kupang Airport.

The data collection techniques used were questionnaire distribution, direct observation by the author, interviews, and literature study. A questionnaire is a number of written questions used to obtain information from respondents. The questions or statements given are matters regarding passenger compliance and its factors.

Direct observations made by the author relate to passenger compliance in using the drop zone facilities at the El Tari Kupang Airport terminal. Observation is carried out as a systematic observation and recording of symptoms that appear on the research object [12]. The author focuses on the observation process in the land side area of the airport, especially in the drop zone area accompanied by Landside Service Officer (LSO) personnel at Bandar Udar El Tari Kupang.

The interview was conducted by two parties where the author was the interviewer who asked questions. Furthermore, there were several sources consisting of passengers, airport personnel and parking attendants as someone who provided answers to the questions that had been asked. Interviews are carried out with a specific purpose through conversation [13].

Documentation is a collection of records of events in the form of writing, images or monumental works. In this research the author took documentation in the form of pictures of actual conditions at El Tari Kupang Airport.

The literature study in this research carried out an analysis of interrelated reports after solving the problem [14]. The literature study in this research is guided by the Decision of the Directors of PT. Angkasa Pura I Number 87 of 2018 concerning Landside Manual of Standards (MOS).

3.2 Data Analysis Techniques

3.2.1 Data Validity Test

The validity test is the degree of accuracy of the data collected by the researcher with the data that actually occurred. A questionnaire is declared valid if the calculated r value > r table at the 5% significance level is 0.361. So, if the r value ≥ 0.361 then the data is valid.

3.2.2 Data Reliability Test

Research is considered reliable if it meets the reliability category. Reliability testing is used as the degree of consistency and stability of data. If the Croanbach's alpha value is >0.60 then the research is considered reliable, conversely if the Croanbach's alpha value is <0.60 then the research is considered less reliable.

3.2.3 Descriptive Analysis

Descriptive analysis technique is a technique for describing or describing existing research data from phenomena or activities that occur [15]. Questionnaire data that has been given to the respondents were then examined and the data compiled and calculated by the author. Next, the data that has been compiled will be presented in table form to make calculations easier. After the data is calculated, the presentation of the answers in tabular form is presented in graphical form. Descriptive analysis techniques in this research were used to describe passenger compliance in order to expedite traffic in the drop zone area of the Kupang El Tari Airport terminal. The data presented is in the form of quantitative measurement results.

Data is calculated using a Likert scale with a value range of 1 – 4. The following is a reference for the scale used:

Answer	Score
Strongly agree	4
Agree	3
Don't agree	2
Strongly Disagree	1

Table 1: Likert scale

After the results of the questionnaire are obtained, the respondent's interpretation value is then determined using the index % formula.

Index Formula % = Total Score / X x 100

Furthermore, it can be seen that passenger compliance in using the drop zone facilities is as follows:

Presentation	Qualification
76% -100 %	Strongly agree
51% - 75%	Agree
26% - 50%	Don't agree
0% - 25%	Strongly Disagree

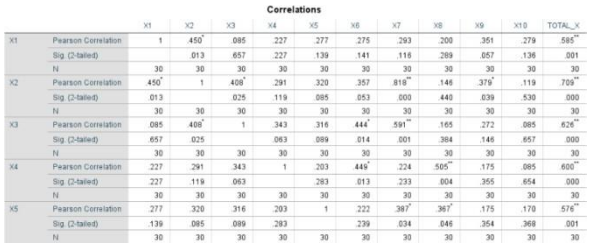
Table 2: Percentage of Likert scale values

4. RESULTS AND DISCUSSION

4.1 RESULTS

As a result of non-compliance, it will have an impact on the volume of vehicles in the drop zone area. The research results show that passenger compliance in using the drop zone facilities at the El Tari Airport terminal is proven by the results of the questionnaire that has been distributed. Apart from that, the questionnaire

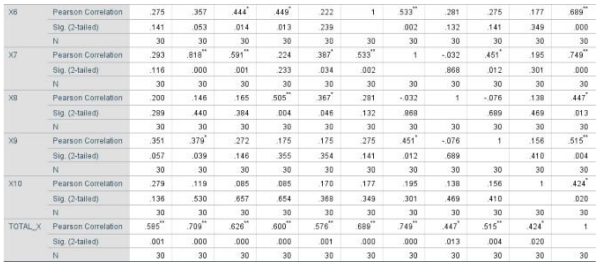
also shows the factors that cause non-compliance in the drop zone area.



Correlations

		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	TOTAL_X
X1	Pearson Correlation	1	.450*	.085	.227	.277	.275	.293	.200	.351	.279	.585**
	Sig. (2-tailed)		.013	.657	.227	.139	.141	.116	.289	.057	.136	.001
	N	30	30	30	30	30	30	30	30	30	30	30
X2	Pearson Correlation	.450*	1	.408*	.291	.320	.357	.818**	.146	.379*	.119	.709**
	Sig. (2-tailed)	.013		.025	.119	.085	.053	.000	.440	.039	.530	.000
	N	30	30	30	30	30	30	30	30	30	30	30
X3	Pearson Correlation	.085	.408*	1	.343	.316	.444*	.591**	.165	.272	.085	.626**
	Sig. (2-tailed)	.657	.025		.063	.089	.014	.001	.384	.146	.657	.000
	N	30	30	30	30	30	30	30	30	30	30	30
X4	Pearson Correlation	.227	.291	.343	1	.203	.449*	.224	.505**	.175	.085	.600**
	Sig. (2-tailed)	.227	.119	.063		.283	.013	.233	.004	.355	.654	.000
	N	30	30	30	30	30	30	30	30	30	30	30
X5	Pearson Correlation	.277	.320	.316	.203	1	.222	.387*	.367*	.175	.170	.576**
	Sig. (2-tailed)	.139	.085	.089	.283		.239	.034	.046	.354	.368	.001
	N	30	30	30	30	30	30	30	30	30	30	30

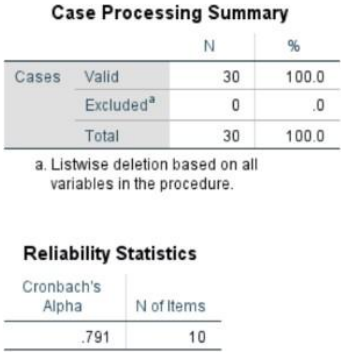
Figure 4: Validity Test Results



X6	Pearson Correlation	.275	.357	.444*	.449*	.222	1	.533**	.281	.275	.177	.689**
	Sig. (2-tailed)	.141	.053	.014	.013	.239		.002	.132	.141	.349	.000
	N	30	30	30	30	30	30	30	30	30	30	30
X7	Pearson Correlation	.293	.818**	.591**	.224	.387*	.533**	1	-.032	.451*	.195	.749**
	Sig. (2-tailed)	.116	.000	.001	.233	.034	.002		.868	.012	.301	.000
	N	30	30	30	30	30	30	30	30	30	30	30
X8	Pearson Correlation	.200	.146	.165	.505**	.367*	.281	-.032	1	-.076	.138	.447*
	Sig. (2-tailed)	.289	.440	.384	.004	.046	.132	.868		.689	.469	.013
	N	30	30	30	30	30	30	30	30	30	30	30
X9	Pearson Correlation	.351	.379*	.272	.175	.175	.275	.451*	-.076	1	.156	.515**
	Sig. (2-tailed)	.057	.039	.146	.355	.354	.141	.012	.689		.410	.004
	N	30	30	30	30	30	30	30	30	30	30	30
X10	Pearson Correlation	.279	.119	.085	.085	.170	.177	.195	.138	.156	1	.424*
	Sig. (2-tailed)	.136	.530	.657	.654	.368	.349	.301	.469	.410		.020
	N	30	30	30	30	30	30	30	30	30	30	30
TOTAL_X	Pearson Correlation	.585**	.709**	.626**	.600**	.576**	.689**	.749**	.447*	.515**	.424*	1
	Sig. (2-tailed)	.001	.000	.000	.000	.001	.000	.000	.013	.004	.020	
	N	30	30	30	30	30	30	30	30	30	30	30

Figure 5: Validity Test Results

It can be seen in the picture above that the results of all questionnaire items have a value of >0.361 and a significance value of less than 0.50. So it can be concluded that all question items in the questionnaire are valid.



Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.791	10

Figure 6: Reliability Test Results

Picture above shows the reliability test results of 0.791. This shows that all questionnaire statement items are reliable.

The total index results from all questionnaires that have been obtained are as follows:

Questionnaire Results			
Question Items	Presentation	Question Items	Presentation
1.	96%	6.	87%
2.	90%	7.	87%
3.	87%	8.	90%
4.	89%	9.	87%
5.	89%	10.	91%

Table 3: Presentation of Questionnaire Results

The results of observations made by the author show that there are no markings and signs in the drop zone area, the number of lanes in the curbside area is not in accordance with the regulations, and vehicle flow is not appropriate. Thus, this can lead to non-compliance in the form of lane misuse by drivers and many passengers leaving their vehicles in the drop zone area for a long time.

Interviews were conducted by writers and resource persons consisting of 1 Landside Service Officer, 1 Terminal Service Officer, 2 PRIMKOPAU as parking attendants, and 1 passenger at El Tari Kupang Airport. The questions asked were about the resource person's opinion regarding the availability of facilities at El Tari Kupang Airport as well as suggestions and input so that it could be better in the future.

4.2 DISCUSSION

The questionnaire showed that passenger compliance in using the drop zone facilities was less than compliant. Lack of compliance in question includes compliance with the duration of time in the drop zone, accumulation caused by misuse of lanes by drivers, and not following directions from parking officers.

This is proven by the results of the questionnaire in questions number 1, 3 and 6. Question number 1 produces a total index of 96%, meaning that respondents agree that drivers still do not comply with the regulations regarding time limits in the drop zone area. Question item number 3 produces a total index of 90%, meaning that respondents agree that there is still a lot of accumulation caused by non-compliance in lane use in the drop zone area. Question item number 6 produced a total index of 87%, meaning that respondents agreed that there was disobedience by passengers in following directions from airport parking officers.

The results of other questionnaire item numbers explain what factors can cause non-compliance in the use of drop zone facilities. These include a lack of advice from passengers when leaving their vehicles for too long, resulting in a buildup in the drop zone area, a lack of mutual respect between road users because it hinders the movement of other drivers, a lack of available drop zone lanes, the absence of sanctions or enforcement for violators, the flow of vehicles which do not comply with standards, as well as the absence of markings and signs in the drop zone area.

Other supporting data in the form of observations and interviews shows a similar thing, namely that there is indeed non-compliance from drivers in the drop zone area and there are factors that influence this non- compliance. These factors can cause build-up and hamper traffic at the Kupang El Tari Airport terminal.

So, what needs to be done to optimize the smoothness of traffic in the drop zone area is that parking officers play an active role in reprimanding violators in the drop zone area, adding inner lane lanes so as not to result in misuse of the lane function by drivers if the drop zone is full, providing markings and signs. appropriate, and changes in vehicle flow in accordance with standards.

This solution was conveyed by airport personnel and parking officers, meaning they agreed to the changes and additions to these facilities. This solution aims to reduce non-compliance or violations committed by drivers in the drop zone area. This will of course affect the smoothness of traffic in the El Tari Kupang Airport terminal area and have a positive impact on airport operational activities. This effort is of course based on the Decree of the Directors of PT. Angkasa Pura I Number 87 of 2018 concerning Landside Manual of Standards (MOS).

5. CONCLUSION

Based on the discussion above, the author can draw the following conclusions:

1. In the questionnaire, item number 1 obtained a questionnaire score of 96%. This means that the respondents strongly agree that passengers' compliance in using the drop zone facility for 3 minutes according to the rules is a lack of compliance.
2. In the questionnaire, item number 3 obtained a questionnaire score of 90%. This means that the respondents strongly agree that passenger compliance in using the appropriate lane is less than obedient.
3. In the questionnaire, item number 6 obtained a questionnaire score of 87%. This means that respondents agree that there are still many passengers who follow directions from parking officers to maintain smooth traffic at the terminal.
4. In the questionnaire, other items and some supporting data prove that the factors that influence passenger non-compliance in using the drop zone facility are the lack of self-awareness of passengers in using the facility, the lack of number of lanes, the unavailability of markings and signs as supporting facilities, and the existence of road closures so that vehicle flow does not comply with standards.

From the conclusions above, there are several suggestions that can solve the problems in this research, including:

1. Suggestions that can be given to the airport are that LSO personnel should increase good cooperation with PRIMKOPAU as parking officers in reprimanding violators and accompanied by confirmation in the form of applicable sanctions as has been implemented at several large airports in Indonesia in order to maintain smooth traffic in terminal.
2. For further research, we can further evaluate this research by adding parking officers so that all personnel can mobilize every vehicle in the drop zone area to immediately move to the exit when finished.

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