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# Passenger Satisfaction after Natural Disasters in Palu Airport Indonesia

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***ABSTRACT***
*Airport is an area of land and / or waters with certain boundaries used as a place for aircraft landing and taking off, boarding and disembarking passengers, loading and unloading goods, and places for intra and intermodal transportation of transportation equipped with aviation safety and security facilities, as well as integration with other development sectors. Airport Mutiara Sis Al Jufri including the area directly affected earthquake and likuefaksi that occurred on September 28, 2018, so that most of the runway along 250 m damaged and can not be used for the landing of commercial aircraft, while unt uk facility landward side are buildings ATC ( Air Traffic Controller ) which cannot be used at all and the passenger terminal building is mostly unusable because it was destroyed by the earthquake and resulted in inadequate service to passengers.The purpose of this study was to determine the level of passenger satisfaction after the earthquake, tsunami and liquefaction natural disasters in the services of Mutiara Sis Al Jufri Airport, Palu. The method of data collection was done by using questionnaires and direct interviews with 94 respondents.To determine the level of passenger satisfaction in this case using the Customer Satifaction Index (CSI) method . The results showed that the Customer Satisfaction Index (CSI) was 81.68%, which means that the value was in the very satisfied category. This shows that passengers who use flight services through Mutiara Sis Al Jufri Airport in Palu after the earthquake, tsunami and liquefaction natural disasters are very satisfied with the service quality of the airport and existing facilities even with all its limitations, considering that some parts of the terminal building and the facilities cannot be used yet due to waiting time for the rehabilitation process .*
***KEYWORDS****: Passenger Satisfaction , Cost Umer Satifaction Index (CSI)*

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## I. INTRODUCTION

The main function of an airport is a node in the transportation network according to its hierarchy[1],[2][3][4], as a gateway to economic activity, a place for transfer of transportation activities, driving and supporting industrial and / or trade activities, opening regional isolation, developing border areas, and handling disasters, as infrastructure to strengthen insights. archipelago and state sovereignty.[5][6]

Mutiara Sis Al-Jufri Airport, Palu is located in Palu City which is the capital city of Central Sulawesi Province, as a hub for 5 (five) airports in the districts of Central Sulawesi Province, namely Sultan Bantilan Airport in Toli-Toli Regency, Pogogul Airport in the Regency. Buol, Kasiguncu service in K abubaten Poso, Tanjung Api Airports in Tojo Una-Una and Amir Aminudin Thanksgiving service at K abupaten Luwuk and Maleo in Morowali Airport. Role Airport Air Mutiara Sis Al-Jufri is a node in the transport network in accordance with the hierarchy as a tertiary collector, gate economic activities of Central Sulawesi province, where activity over the modes of transport and infrastructure to mem reinforce archipelago insight and sovereignty.[7]Mutiara Sis Al-Jufri Airport itself is one of the areas directly affected by the earthquake and liquefaction that occurred on 28 September 2018, because it is still in the same sub-district, namely South P alu and the distance between the liquefaction area and the 33 south runway is only ± 6 km so that part of the runway along 250 m was damaged and could not be used for commercial aircraft landing. As for the land side facilities, namely the ATC ( *Air Traffic Controller* ) building which was completely unusable and the passenger terminal building was mostly unusable because it was destroyed by the earthquake.[8]

Restoration of air and land side facilities at Mutiara Sis Al-jufri Airport began on the second (2) day after the disaster, by restoring the electricity network to reactivate visual lights on the *runway* and lights in buildings around the airport. bring in assistance in the form of *portable tower* equipment sent directly from Manokwari airport as a replacement for the ATC ( *Air Traffic Controller* ) tower building which will be used to assist guides in landing aircraft that will bring humanitarian aid and evacuate victims, and clean debris in some areas. a passenger terminal building that is still fit for use so that it can be used as soon as possible for passenger

mobilization.[9]. In terms of its own management [10], so far after the earthquake disaster in Palu City, Mutiara Sis Al-jufri Airport has experienced several problems, including inadequate departure waiting room facilities, such as the number of seats that are still not suitable for the number of passengers, facilities or supporting facilities in the waiting room for departure are also inadequate, such as the air conditioner is not functioning optimally, so that the waiting room for departure feels hot. Another problem is that sometimes passengers wait quite a long time for more than 15 minutes to collect *baggage* because the *conveyor baggage* equipment is not fully operational.[11]

The inadequate service of Mutiara Sis Al Jufri Airport in Palu after a natural disaster can lead to various responses from passengers, from these various shortcomings it has led to complaints from passengers, which indicates dissatisfaction with the services of Mutiara Sis Al Jufri Airport in Palu [12]. The existence of this problem prompted the author to conduct a research entitled " Passenger Satisfaction Levels of Post-Earthquake, Tsunami and Liquefaction Passenger Satisfaction in the Services of Mutiara Sis Al Jufri Airport, Palu".

The purpose of this study was to determine the level of airport passenger satisfaction with the service at Mu tiara Sis Al-Jufri Airport in Palu after a natural disaster.[7][13][14] [15]

## II. LITERATURE REVIEW

### 2.1 Airport

Airport is an area of land and / or waters with certain boundaries used as a place for aircraft to land and take off, boarding[16] and disembarking passengers, loading and unloading goods, and places for intra and intermodal transportation of transportation equipped with aviation safety and security facilities, as well as mix with other development sectors. [17][18][19] According to Law Number 1 of 2009 concerning Aviation and Ministerial Regulation Number 69 of 2013 concerning National Airport Arrangements, based on its function, airports are the places for administering government and / or business activities. As a place for government administration, an airport is a place for work units of government agencies in carrying out their duties and functions towards the community in accordance with statutory regulations in matters including:

a. Aviation activity coaching
b. Customs
c. Immigration
d. Canteen.

The passenger terminal is a building provided to serve all passenger activities from arrival to departure,[7] [20][21] . Service standards are benchmarks used as guidelines for service delivery and reference for service quality assessment as obligations and promises of providers to the public in terms of quality, fast, easy, affordable and measurable services (Regulation of the Minister of Transportation Number PM 178 of 2015 concerning User Service Standards. Airport Services). [28]

### 2.2.Service User / Passenger Satisfaction

The level of quality of service perceived pe passengers are feeling the degree of passengers in accepting what diberik a late by the company. The degree of service quality felt by passengers is the level of assessment of the service experienced by passengers,[1][2][4][15]. [27] Satisfaction is the absence of differences between the expectations that are owned and the performance that is actually received. Passenger satisfaction is a condition that describes the fulfillment, even the expectations of passengers for a product or service carried out by the producer / business actor[8][15] [17]. According to , Arman Mardoko [25] [26] in measuring the quality of passenger satisfaction there are five (5) major dimensions, namely:

1. *Reability* is the ability to perform the promised services accurately and reliably.
2. *Resposivenses* the desire to help and provide services to passengers quickly.
3. *Assurance* the ability and politeness of employees and the trustworthiness of employees.
4. *Emphat y* care and attention given by employees to consumer needs.
5. *Tangible* (physical evidence) appreciates physical facilities, equipment, employees and means of communication.

The theory passengers satisfaction and dissatisfaction which is formed in the disconfirmation expectation model[7][13],[22],[29] which explains that the satisfaction or dissatisfaction of passengers is a result of a comparison between the expectations of the passengers before the actual purchase of the obtained passengers of produk or services[23].[24][25] [30]

2.3. **Framework**

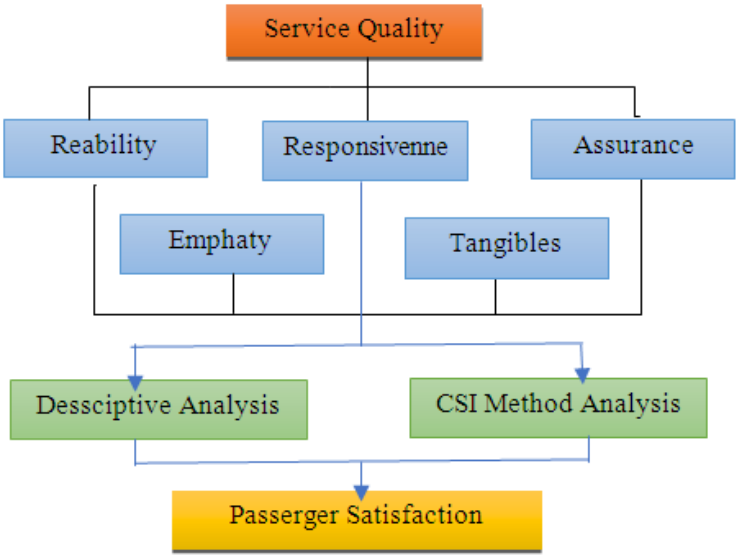


**Figure 1,** Framework

## III. RESEARCH METHODS

### 3.1. Location and Time of Research

The research location is the Mutiara Sis Al-Jufri Airport terminal building, Palu City, Central Sulawesi Province. Includes the stages of preparation, data collection, data analysis and preparation of research results.

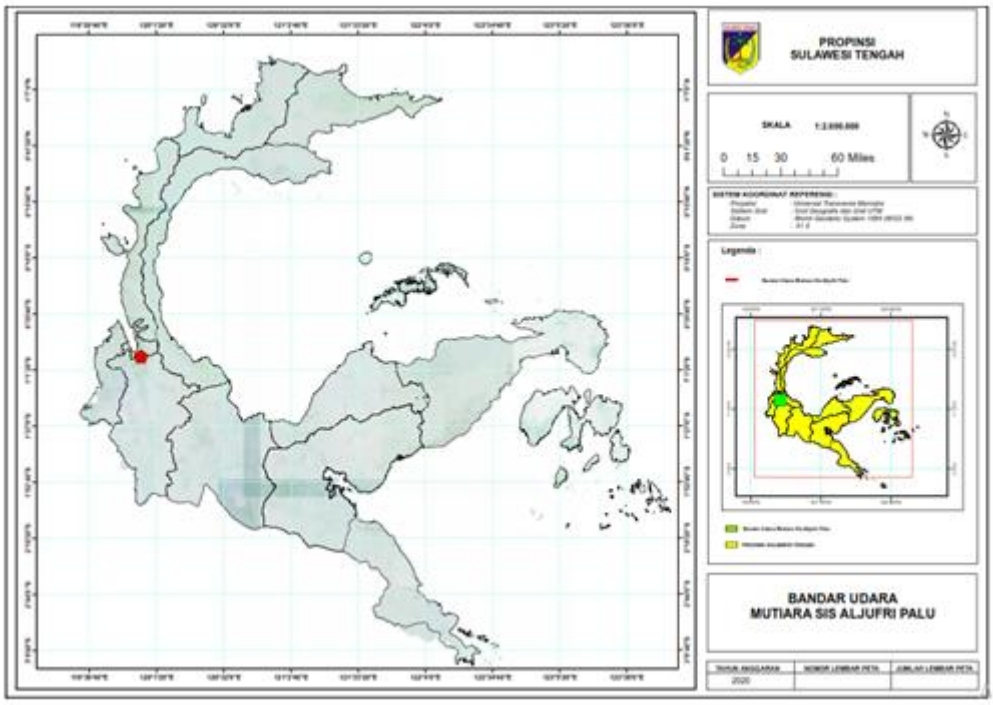


**Figure 2** . Map of Research Location at Mutiara Sis Al Jufri Airport, Palu Central Sulawesi Province

Figure 3. Passenger Terminal Research Locations
Mutiara Sis Al Jufri Airport, Palu, Central Sulawesi Province

**3.2. Types of research**

This type of research is a type of quantitative descriptive research, namely research that uses data analysis in explaining, affirming and describing the characteristics of the variable of community satisfaction with the services of Mutiara Sis Al Jufri Airport in Palu after the earthquake, tsunami and liquefaction natural disasters.

**3.3. Population and Sample**

Population is a generalization area consisting of objects that have certain qualities and characteristics set by the researcher to study and then draw conclusions, while the sample is part of the number of characteristics possessed by the population[5], [26]. The population in this study were passengers arriving and departing via Mutiara Sis Al-Jufri Airport, Palu, which based on the data and the results of interviews with the fig band manager that the average number of passengers in February was 1,500 people. While the sample is part of the number and characteristics of the population. If the population is large and it is impossible for the researcher to study everything in the population, for example because of limited funds, energy and time, the researcher can use a sample taken from that population [5]. In this study, the sampling technique used the Slovin formula [5],[6], which is as follows:

$$\boldsymbol{n = \frac{N}{1 + Ne^2}}$$

Where :
n = the amount until e l
N = size of population
e = critical value
With a confidence degree of 90 %, the critical value in this study is 10 %. So that researchers can determine the minimum limit of the sample can meet syar at *a margin of error of* 10 % or 0 , 1 to include *a margin of error* into the formula or the formula *slovin* . So to determine the number of samples in the study used the calculation seb a gai follows :

$$n = \frac{1.500}{1+ 1.500\ (0,1)^2} \qquad n = \frac{1.500}{1+ 1.500\ (0,01)}$$

$$n = \frac{1.500}{1+15} \qquad n = \frac{1.500}{16}$$

hence, n = 93.75 ~ 94

From the calculation above, the n value is 93.75 and rounded up to 94 people so that the number of respondents is 94 respondents. The distribution of questionnaire data collection to 94 respondents can be seen in the following table:

Table 1. Number of Respondents

| No. | Type of Passenger | Number of Respondents (person) |
|---|---|---|
| 1 | Depart | 70 |
| 2 | Come | 24 |
| Total Number of Respondents | | 94 |

Source: 2020 Data Processing Results

**3.4 Data collection technique**

Data collection in this study consisted of:

1. Interviews, namely data collection by conducting in-depth questions and answers to respondents, in this case passengers passing through Mutiara Sis Al Jufri Airport, Palu.
2. Distributing questionnaires is a data collection technique that is carried out by giving a set of written statements to respondents to answer. The instrument used in this study was intended to produce accurate data by using a *Likert* scale . In this study, researchers used a type of questionnaire or questionnaire with a score for the statement of satisfaction and interest

**3.5. Data analysis technique**

Data analysis is a very important step in research. This is because the data can be given meaning that is useful in solving problems in research.Validity Test (Validity), Test is the validity of the test aimed to assess whether the instruments used vali d or to analyze, correlate between each value of the question number with the total value of the question number. Reliability test is used to determine the consistency of measuring instruments, whether the measuring instruments used can be relied on and remain consistent if the measurement is repeated. There are several methods of testing this reliability . In this study will be used *method Cronbach`s Alpha* , in which the test results of reliability can be seen in *the output Re ability Statistics* to conclude whether the gauge re li abel or unreliable. Descriptive analysis in this study is used to analyze the characteristics of respondents and characteristics of respondents' responses which aim to identify the level of passenger satisfaction after the earthquake, tsunami and liquefaction natural disasters in the service of Mutiara Sis Al Jufri Airport, Palu. Data related to the characteristics of respondents were analyzed by making a table on the frequency distribution of respondents based on characteristics of gender, age , latest education , profession, and frequency of using aviation services .

The method of measuring the passenger satisfaction index, *Customer Satisfaction Index (CSI)* or the satisfaction index penum Pang is a method that uses an index to measure the level of customer satisfaction based on attribute-atri but certain. According to Aritonang, in Arman Mardoko (2005) there are 4 (four) steps in calculating the *Customer Satisfaction Index* (CSI) , namely :

a. Determining the *Mean Important Score* (MIS) is done by looking at the average score of the respondent's answer on each question item on the questionnaire. *Mean Satisfaction Score* (MSS) this value is based on the level of importance and performance of each respondent.

b. Making *Weight Factors* (WF), this weight is the percentage of the MIS value per attribute on the MIS problem,

c. Making a *Weight Score* (WS), this weight is the multiplication of Weight Factors (WF) and the average level of satisfaction ( *Mean Satisfaction Scor e* MSS).

Determine the *Customer Satisfaction Index* (CSI).

## IV. RESULTS AND DISCUSSION

**4.1.Validity Test Results**

The correlation coefficient obtained still has to be tested for its significance. Question items are said to be valid if the p value is <0.05. Referred to test the validity of a dalah the data would be credible in accordance with reality. Criterion validity testing statistically significant say if the value of r count > r table and to test the validity then used SPSS version 20. Mechanical the test used is the correlation technique *Person Product Moment.* From the results of testing the validity of the research instrument with a confidence level of 97%, and r table 0.2028 can be seen in Table 3 below:

Table 2. Validity Test Results (validity ) Variable X Satisfaction Assessment

| No. | Variable | Indicator | r count (X) | r table | Validity |
|---|---|---|---|---|---|
| **1** | X1 | X.1.1 | 0.6420 | 0.2028 | Valid |
| **2** | | X.1.2 | 0.2420 | 0.2028 | Valid |
| **3** | | X.1.3 | 0.6750 | 0.2028 | Valid |
| **4** | | X.1.4 | 0.6140 | 0.2028 | Valid |
| **5** | X2 | X2.1 | 0.5940 | 0.2028 | Valid |
| **6** | | X2.2 | 0.66 70 | 0.2028 | Valid |
| **7** | | X2.3 | 0.5690 | 0.2028 | Valid |
| **8** | | X2.4 | 0.5730 | 0.2028 | Valid |
| **9** | X3 | X3.1 | 0.3690 | 0.2028 | Valid |
| **10** | | X3.2 | 0.5160 | 0.2028 | Valid |
| **11** | | X3.3 | 0.4370 | 0.2028 | Valid |
| **12** | | X3.4 | 0.5170 | 0.2028 | Valid |
| **13** | | X3.5 | 0.5600 | 0.2028 | Valid |
| **14** | | X3.6 | 0.6130 | 0.2028 | Valid |
| **15** | X4 | X4.1 | 0.5410 | 0.2028 | Valid |
| **16** | | X4.2 | 0.6210 | 0.2028 | Valid |
| **17** | | X4.3 | 0.6000 | 0.2028 | Valid |
| **18** | | X4.4 | 0.6020 | 0.2028 | Valid |
| **19** | X5 | X5.1 | 0.4880 | 0.2028 | Valid |
| **20** | | X5.2 | 0.4490 | 0.2028 | Valid |
| **21** | | X5.3 | 0.4230 | 0.2028 | Valid |
| **22** | | X5.4 | 0.3070 | 0.2028 | Valid |
| **23** | | X5.5 | 0.3560 | 0.2028 | Valid |
| **24** | | X5.6 | 0.1220 | 0.2028 | Invalid |

Source: SPSS 20 output data

It can be seen in table 3 that the results of the test of the validity of the X variable in the satisfaction assessment show that the number of questionnaire items is 24 items consisting of 5 indicators, namely reliability, responsiveness, assurance, empathy, and tangible. (physical evidence). Of the 24 items, one item that is not valid , namely the variable X5 at X5.6 instruments namely t ersedianya *food cor ner* and various outlets that sell food to passengers obtained the r value calculated by 0.1220 < smaller when compared with the value of r table of 0.2028. There is 1 item that is invalid, so only 23 items in this research instrument can be used and can be trusted to be able to provide a measurement result with an accurate level of accuracy and precision, while 1 item will not be investigated further.

Table 3.Validity Test Results (validity)
Variable Y Importance Assessment

| No. | Variable | Indicator | r count (Y) | r table | Validity |
|---|---|---|---|---|---|
| **1** | Y1 | Y.1.1 | 0.5500 | 0.2028 | Valid |
| **2** | | Y.1.2 | 0.2600 | 0.2028 | Valid |
| **3** | | Y.1.3 | 0.5120 | 0.2028 | Valid |
| **4** | | Y.1.4 | 0.5450 | 0.2028 | Valid |
| **5** | Y2 | Y2.1 | 0.5520 | 0.2028 | Valid |
| **6** | | Y2.2 | 0.5230 | 0.2028 | Valid |
| **7** | | Y2.3 | 0.5110 | 0.2028 | V alid |
| **8** | | Y2.4 | 0.5830 | 0.2028 | Valid |
| **9** | Y3 | Y3.1 | 0.5833 | 0.2028 | Valid |
| **10** | | Y3.2 | 0.5720 | 0.2028 | Valid |

| | | | | | |
|---|---|---|---|---|---|
| **11** | | Y3.3 | 0.6750 | 0.2028 | Valid |
| **12** | | Y3.4 | 0.7130 | 0.2028 | Valid |
| **13** | | Y3.5 | 0.7950 | 0.2028 | Valid |
| **14** | | Y3.6 | 0.7860 | 0.2028 | Valid |
| **15** | Y4 | Y4.1 | 0.6950 | 0.2028 | Valid |
| **16** | | Y4.2 | 0.7660 | 0.2028 | Valid |
| **17** | | Y4.3 | 0.7330 | 0.2028 | Valid |
| **18** | | Y4.4 | 0.7310 | 0.2028 | Valid |
| **19** | Y5 | Y5.1 | 0.4880 | 0.2028 | Valid |
| **20** | | Y5.2 | 0.4490 | 0.2028 | Valid |
| **21** | | Y5.3 | 0.4230 | 0.2028 | Valid |
| **22** | | Y5.4 | 0.3070 | 0.2028 | Valid |
| **23** | | Y5.5 | 0.3560 | 0.2028 | Valid |
| **24** | | X5.6 | 0.3220 | 0.2028 | Valid |

Source: SPSS 20 output data

In table 3, the results of the validity test of the Y variable, the importance assessment obtained from the 24 indicators, are all valid, the r value on the indicator is greater than the r pa value in the table (0.2028), so that all indicators can be trusted and can be used in further calculations.

**Reliability Test Results (Reliability)**

A reliable instrument is an instrument that when used several times to measure the same object, will produce the same data. The question item is declared reliable if the *Concbach's alpha value is* above 0.6, the greater the $\alpha$ value , the greater the reliability.

Based on the results of reliability testing using SPPS version 20, the following data were obtained:

Table 4. Results of Tests Reliability t erhadap
Variable X Satisfaction Assessment

| No. | Variable | Indicator | Alpha Cronbach |
|---|---|---|---|
| 1 | X1 | X.1.1 | 0.691 |
| 2 | | X.1.2 | 0.723 |
| 3 | | X.1.3 | 0.704 |
| 4 | | X.1.4 | 0.704 |
| 5 | X2 | X2.1 | 0.691 |
| 6 | | X2.2 | 0.689 |
| 7 | | X2.3 | 0.712 |
| 8 | | X2.4 | 0.702 |
| 9 | X3 | X3.1 | 0.714 |
| 10 | | X3.2 | 0.724 |
| 11 | | X3.3 | 0.724 |
| 12 | | X3.4 | 0.724 |
| 13 | | X3.5 | 0.721 |
| 14 | | X3.6 | 0.716 |
| 15 | X4 | X4. 1 | 0.723 |
| 16 | | X4.2 | 0.706 |
| 17 | | X4.3 | 0.714 |
| 18 | | X4.4 | 0.705 |
| 19 | X5 | X5.1 | 0.691 |
| 20 | | X5.2 | 0.691 |
| 21 | | X5.3 | 0.689 |
| 22 | | X5.4 | 0.712 |
| 23 | | X5.5 | 0.702 |

Source: SPSS 20 output data

From the results of the reliability test for all indicators of the X variable for the evaluation of satisfaction, it was obtained that the *Concbach's alpha value was* above 0.6 .

Table 5. Reliability Testing Results
Variable X Satisfaction Assessment

| Cronbach's Alpha | N of items |
|---|---|
| 0.717 | 23 |

Source: SPSS 20 output data

Based on table 6, the result of the reliability test is known that the *Cronbach Alpha* coefficient value obtained is 0.717 or greater than 0.6. This data shows that the research instrument X assessment of satisfaction is reliable so that it can be used as a research instrument

Table 6. Reliability Test Results Against Variable Y Interests Assessment

| No. | Variable | Indicator | Alpha Cronbach |
|---|---|---|---|
| 1 | Y1 | Y.1.1 | 0.922 |
| 2 | | Y.1.2 | 0.919 |
| 3 | | Y.1.3 | 0.921 |
| 4 | | Y.1.4 | 0.920 |
| 5 | Y2 | Y2.1 | 0.925 |
| 6 | | Y2.2 | 0.918 |
| 7 | | Y2.3 | 0.920 |
| 8 | | Y2.4 | 0.924 |
| 9 | Y3 | Y3.1 | 0.927 |
| 10 | | Y3.2 | 0.919 |
| 11 | | Y3.3 | 0.928 |
| 12 | | Y3.4 | 0.918 |
| 13 | | Y3.5 | 0.926 |
| 14 | | Y3.6 | 0.916 |
| 15 | Y4 | Y4.1 | 0.923 |
| 16 | | Y4.2 | 0.907 |
| 17 | | Y4.3 | 0.919 |
| 18 | | Y4.4 | 0.918 |
| 19 | Y5 | Y5.1 | 0.927 |
| 20 | | Y5.2 | 0.912 |
| 21 | | Y5.3 | 0.920 |
| 22 | | Y5.4 | 0.913 |
| 23 | | Y5.5 | 0.917 |
| 24 | | X5.6 | 0.918 |

Source: SPSS 2 0 output data

From the results of the reliability test for all indicators of the Y variable, the assessment of importance, the *Concbach's alpha value was* above 0.6 .

Table 7. Reliability Testing Results
Variable Y Interest Assessment

| Cronbach's Alpha | N of Items |
|---|---|
| 0.921 | 24 |

Source: SPSS 20 output data

Based on table 7 , the results of the reliability test show that the *Cronbach Alpha* coefficient value obtained is 0, 921 or greater than 0.6. This data shows that the research instrument Y assessment of importance is reliable so that it can be used as a further research instrument .

**Consumer Satisfaction Index Method**

*Customer Satisfaction Index (CSI)* or passenger satisfaction index is a method that uses an index to measure the level of customer satisfaction based on certain attributes . According to Aritonang, in Mardoko, Arman there are 4 (four) steps in calculating the *Customer Satisfaction Index* (CSI) , namely:

1. Determining the *Mean Important Score* (MIS), which is done by looking at the average score of respondents' answers on each question item on the questionnaire. *Mean Satisfaction Score* (MSS) this value is based on the level of importance and performance of each respondent.
2. Make *Weight Factors* (WF), this weight is the percentage of the MIS value per t attribute for the MIS question,
3. Creating a *Weight Score* (WS), this weight is the multiplication of the Weight Factors (WF) and the average level of satisfaction ( *Mean Satisfaction Score* MSS).
4. M enentukan *Customer Satisfaction Index* (CSI) .

In determining the *Customer Satisfaction Index* (CSI), there are criteria to determine the level of customer satisfaction, this can be seen in table 9 below ( Aritonang, in Mardoko and Arman , 2005) :

Table 8. Criteria for the *Customer Satisfaction Index* (CSI)

| **Index Value (%)** | **Criteria for *Customer Relation Index* (SI)** |
|---|---|
| 81.00-100.00 | Very satisfied |
| 66.00-80.99 | Satisfied |
| 51.00-65.99 | Quite satisfied |
| 35.00-50.99 | Less satisfied |
| 0.00-34.99 | Not satisfied |

Generally, if the CSI value is above 50%, it can be said that airport service users are satisfied, on the contrary if the *Customer Satisfaction Index* (CSI) value is below 50% airport service users are not said to be satisfied.Measuring the level of passenger satisfaction in this study using the *Customer Satisfaction Index* (CSI) method . The results of the calculation of passenger satisfaction using the *Customer Satisfaction Index* (CSI) method will be explained in the following table 9:

Table 9 . Result of Calculation Method *Customer Satisfaction Index* (CSI)

| **NO.** | **QUESTION** | **MIS** | **MSS** | **WF** | **WS** |
|---|---|---|---|---|---|
| | **READILITY (Reliability)** | | | | |
| 1 | Service at the airport is provided precisely from the moment the passenger enters the airport area | 4.16 | 3.95 | 0.04 | 0.18 |
| 2 | Airport services are provided as promised | 3.59 | 3.47 | 0.04 | 0.13 |
| 3 | Adequate facilities (service at the time of baggage inspection). | 4.00 | 3.81 | 0.0 4 | 0.16 |
| 4 | Speed of entry to the checkin room area, waiting room, and arrival hall. | 4.20 | 4.11 | 0.04 | 0.18 |
| | **RESPONSIVENNES (Responsiveness)** | | | | |
| 1 | The airport serves passengers quickly | 4.19 | 4.07 | 0.04 | 0.18 |
| 2 | The airport responds to all passenger needs well | 4.07 | 4.06 | 0.04 | 0.18 |
| 3 | The airport is always ready whenever services are needed. | 4.60 | 4.83 | 0.05 | 0.24 |
| 4 | The airport makes quick repairs if there is an error with the services provided. | 4.60 | 4.72 | 0.05 | 0.23 |
| | **ASSURANCE (Guarantee)** | | | | |
| 1 | The airport has ethics in providing services | 3.61 | 3.64 | 0.04 | 0.14 |
| 2 | The airport is professional in providing services. | 3.55 | 3.73 | 0.04 | 0.14 |
| 3 | The airport service quality is guaranteed | 3.34 | 3.67 | 0.04 | 0.13 |
| 4 | The airport provides a guarantee of legality in services. | 4.23 | 4.32 | 0.05 | 0.20 |
| 5 | The airport guarantees on time service. | 4.67 | 4.72 | 0.05 | 0.24 |
| 6 | The airport guarantees maximum facilities in service. | 4.5 0 | 4.55 | 0.05 | 0.22 |
| | **EMPHATY (Empathy)** | | | | |
| 1 | The airport puts the interests of passengers first. | 3.60 | 3.49 | 0.04 | 0.13 |
| 2 | The airport serves passengers with courtesy | 3.59 | 3.57 | 0.04 | 0.14 |
| 3 | The airport serves passengers with no discriminatory discrimination. | 3.50 | 3.52 | 0.04 | 0.13 |
| 4 | The airport respects every passenger's need. | 4.20 | 4.17 | 0.04 | 0.19 |

| | | | | | |
|---|---|---|---|---|---|
| | **TANGIBLE (Physical Evidence)** | | | | |
| 1 | Comfortable airport lounge. | 4.11 | 3.67 | 0.04 | 0.16 |
| 2 | Comfortable seating facilities in the lounge. | 4.15 | 4.03 | 0.04 | 0.18 |
| 3 | The availability of a comfortable and safe parking space | 4.02 | 3.97 | 0.04 | 0.17 |
| 4 | Using the most up-to-date equipment in its services. | 4.60 | 4.55 | 0.05 | 0.22 |
| 5 | Availability of facilities for elderly passengers and special needs. | 4.60 | 4.56 | 0.05 | 0.2 2 |
| 6 | The availability of *food corners* and various outlets selling food for customers. | 0.00 | 4.11 | 0.00 | 0.00 |
| | | **93.66** | **97.31** | **1.00** | **4.09** |
| | | **3.90** | **4.05** | | |

***Customer Satisfaction Index* (CSI)**

$$CSI = \frac{\sum_{i=1}^{p} WSi}{\text{HS}} x\ 100\%$$

$$= \frac{4,09}{5}\ x\ 100\%$$

**= 82%**

Source: Results of research data, 2020

Based on the calculation results, it is obtained:

1. The *Mean Important Score* (MIS) value is done by looking at the average value of the respondent's answer score for each question item on the questionnaireThe result of the calculation shows on variable X namely satisfaction pelaggan highest value on the indicator X3.5 question p ihak airports provide guarantee an exact time in a service that is equal to 4.67, while the lowest value contained in the indicator X3.3 p ihak tire wench guaranteed quality of service with a value of 3.34. The mean value *Mean Important Score* (MIS) is 3, 90. *Mean Satisfaction Score* (MSS) n use values are based on the levels of interest and the performance of each respondent obtained the highest value contained in the indicator Y2.3 p i right airport always s ach whenever a service is needed with a value of 4.83, while the lowest value is in the Y1.2 indicator. Airport services are given as promised with a value of 3.47. The mean value of the *Mean Satisfaction Score* (MSS) was 4.05.
2. *Weight Factors* (WF), this Weight is the percentage of the MIS value attribute of the MIS problem, form the caluculation results obtained that the total value of *Weight Factors* (WF) is 1.00*Weigh Score (WS), this weight is obtained by multiplying We ight Factors* (WF) with an average level of satisfaction *Mean Satisfaction Score* (MSS), from the calculation, the value *Weigh Score (WS)* is 4.09.
3. Determining *Customer Satisfaction Index* (CSI) is the value *Weigh Score (WS)* divided by the number of sk ala Maximum *Customer Satisfaction Index* (CSI) . The results of the calculation of the *Customer Satisfaction Index* (CSI) are as follows:

*CSI* = ; = ; = 8 2 %

From the calculation when n use values *Costumer Sa tisfaction Index* (CSI) above 50%, it can be said that the services of the airport had been satisfied, whereas if the value of *Customer Satisfaction Index* (CSI) is below 50% of users tire dar air not said to be satisfied. Results of the analysis by clicking using methods *Customer Satisfaction Index* (CSI) shows the level of satisfaction of passengers by 82 % which means that the value is in the very satisfied category. This shows that passengers who use services at Mutiara Sis Al Juf ri Airport in Palu after the earthquake, tsunami and liquefaction natural disasters are very satisfied with the services of the airport and existing facilities .

## V. CONCLUSION

Based on the results of data collection by distributing questionnaires to 94 passengers as respondents and data analysis using the *Customer Satisfaction Index* (CSI) method , the index value is 82% and is included in the very satisfied criteria. From these results, it can be concluded that passengers who use flight services through Mutiara Sis Al Jufri Airport, Palu are very satisfied with services at Mutiara Sis Al Jufri Airport in Palu after the earthquake, tsunami and liquefaction.

From the results of research, observations and interactions with respondents who use flight services through Mutiara Sis Al Jufri Airport, Palu, it is found that in this study the parties of Mutiara Sis Al Jufri Airport Palu are expected to continue to strive to meet the needs of facilities and infrastructure as well as quality sources. power m anusia to support the provision of services passengers better, in order to achieve the satisfaction of the community which is a picture of the success of the service of passengers .

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