Civilla : Jurnal Teknik Sipil Universitas Islam Lamongan
Volume 6 Number 1 Year 2021

ISSN (*Online*) 2503 - 2399
ISSN (*Print*) 2503-2399

Available online at
https://jurnalteknik.unisla.ac.id/index.php/CVL
https://doi.org/10.30736/cvl.v2i2

English Information Readability At Adi Soemarmo Solo Airport Station

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A R T I C L E I N F O

Article History :
Article entry : 02-02-2021
Article revised : 17-02-2021
Article received : 25-02-2021

Keywords :
Bearing Capacity, Foundation, CPT, SPT.

IEEE Style in citing this article :
Puspitasari, W. T. Adi, and N. F. Aprilia, "English Information Readability At Adi Soemarmo Solo Airport Station", CIVILA, vol. 6, no. 1, pp. 13–28, 2021.

A B S T R A C T

This study aims to determine the level of satisfaction and passenger perceptions of the readability of information in English at Adi Soemarmo Airport Station and formulate a recommendation to improve the readability of information in English to the manager of Adi Soemarmo Airport Station. This research is quantitative descriptive. Measurement of the level of passenger satisfaction uses the ACSI (American Customer Satisfaction Index) method [1], while measuring the level of passenger interest uses the IPA (Importance-Performance Analysis) measurement method and the scale used is the Likert scale [2], [3]. The data collection technique used was a questionnaire method with a random sampling system. Examination of the questionnaire items was carried out by means of validity and reliability tests. The results showed that (1) Passengers were "very satisfied" with the level of readability of information in English at Adi Soemarmo Airport station with a customer satisfaction index value of 0.824[4], [5]. (2) The priority matters for improving the readability of information in English at Adi Soemarmo Airport Station in Solo are (a) Information on advanced transportation / other transportation integration in English; (b) travel information and complaint services in English; (c) Directional markers with a larger proportion of the size of the letter/text of the marker than other information in English; (d) Service information in the form of station plans/layouts, station names, operating schedules, fares, evacuation directions/routes in case of emergency in English; and (e) English-speaking special seat signs for pregnant women and the elderly.

ISSN (*Online*) 2503 - 2399
ISSN (*Print*) 2503-2399

INTRODUCTION

The definition of railway infrastructure in the Law of the Republic of Indonesia Number 23 of 2007 concerning Railways is a railway line, stations, and railway operating facilities so that can be operated. In accordance with the above statement, a station is a railway infrastructure in which the facilities inside are expected to provide convenience, comfort, and safety for service users. In PM 63 of 2019 concerning Minimum Service Standards for People by, article 5 paragraph (1) states that SPM at Railway Stations covers at least; a. Safety; b. Security; c. Reliability; d. Convenience; e. Convenience; and f. Equality. In accordance with these regulations, to make it easier for Airport customers to access information at airport stations, it is necessary to have written information about facilities, services, Operations schedule and Railway Service Network Map, as well as access to directions that meet passenger information standards and national standards[6][7]–[9]. which are enforced such as in the use of materials, legibility, number of sign systems, and others. Of course, with the standards that are enforced in making the information, the readability level can be increased, thus minimizing any misinformation for readers.

The Adi Soemarmo Solo Airport (KA BIAS) has Route 2 (two) stations, namely Solo Balapan Station and Adi Soemarmo Airport Station. The airport station, which is located in the center of the City of Tourism, of course, many immigrants from foreign countries who use the existing transportation facilities around the airport. As an international language, English is used in every information medium in the Solo Airport Station area. Based on the above background, it is necessary to analyze the readability of information in English based on the reality in the field and how the expectations of service users at Adi Soemarmo Airport Station[10]–[13].

Based on the background that has been conveyed, the identification of problems taken in this study are: (1) How Readability of Information in English at Adi Soemarmo Airport Station Solo (2) What things need to be improved on the readability of information in English at Adi Soemarmo Airport Station Solo

The objectives of the research taken were to find out: (1) Readability Level of Information in English at Adi Soemarmo Airport Station, Solo and (2) What things need to be improved on the readability of information in English at Adi Soemarmo Airport Station Solo.

https://doi.org/10.30736/cvl.v2i2

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METHODS

The sign itself in its use is divided into three parts, namely as follows :

1. Sign as a giver of information

   Signs that fall into this category are usually used to provide directions and information related to an environment.
2. Sign as a controller

   Sign which is included in this group is more used to refer to human behavior than the goal to be achieved.
3. Sign as decorative

   Sign as decorative is usually used to decorate, such as banners and flags.

Making a good sign according to Sumbo Tinarbuko (2008) must meet the following four criteria:

1. Easy to see, the placement of the sign must also be thought out carefully. And a good sign placement is a place that is easily accessible to people.
2. Easy to Read, the form of letters or typography used in the sign. As much as possible it can be read.
3. Easy to understand, the writing form stated on the sign must be easy to understand. The form of writing is as short and concise as possible.
4. Can be trusted, the truth of the information can be trusted, not misleading.

Minimum Service Standards at Stations

In the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 63 of 2019 concerning the minimum service standards for the transportation of people by, in relation to the readability of information in English, which is as follows:

1. Safety
   a. Emergency rescue information and alerts in danger such as route instructions and evacuation procedures;
   b. Information on health facilities is visible and affordable;
   c. Assembly point in the area for passengers and others to gather in case of an emergency.
2. Security

   Information if there is a security disturbance in the form of stickers that are easily visible and clearly legible with a distribution that adjusts the area of the station.
3. Reliability/Regularity

https://doi.org/10.30736/cvl.v2i2

ISSN (*Online*) 2503 - 2399
ISSN (*Print*) 2503-2399

a. Manual ticket booths or vending machines and information boards for purchasing and top-up procedures;
b. Information board operating schedule and map of railway service network;
c. Information on arrivals and travel disruptions;

4. Convenience

A smoking ban.

5. Convenience
   a. Service information in the form of station plans / layouts, station names, operating schedules, fares, direction / route for evacuation in case of emergency;
   b. Rail travel disruption information;
   c. Further transportation information / other transportation integration;
   d. Railway travel information and complaint services;
   e. Direction signposts with a larger proportion of the size of the marker letter / text than other information.
6. Equality

Special seating signs for pregnant women, nursing mothers, the elderly.

DISCUSSION

To determine the number of samples in this study. It takes data on the number of passengers of the Adi Soemarmo Airport as a population. From the data obtained from the Adi Soemarmo Airport , from December 2019 to March 2020, there were a total of 90,452 passengers. The number of passengers of Adi Soemarmo Airport can be seen in the following table.

Table 1. Number of Passengers of Adi Soemarmo Airport

The number of passengers of Adi Soemarmo Airport				
Month	December	January	February	March
Amount (People)	6167	50452	32442	1391
Total number (people)	90452			

(Source: Research Data)

From the population above, the sample determination is carried out using the Slovin formula, with the following calculations:

https://doi.org/10.30736/cvl.v2i2

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For the sig = 0,1

$$n = \frac{90452}{1+90452\ (0,1)^2} = 99,88 \sim 100 \text{ sample}$$

From the results of the sample calculation above, the total sample size is ± 100 respondents which will be used to determine the readability of information in English at Adi Soemarmo Airport Station.

Testing the sample from the questionnaire interview survey that was arranged in the form of questions was tested for validity and reliability to find out the correct (valid) and consistent (reliable) measurements so that the research results could be accounted for. In addition, this test is intended to ensure that the questions submitted are in accordance with the aims and objectives to be achieved. This test is done by calculating the correlation between 1 item and the whole item by using the correlation formula from the research results which is then compared with the r table.

The number of samples obtained from the survey to test the validity and reliability of the instrument was 30 respondents, a two-tailed test was carried out to determine whether or not there was a relationship between variable X and variable Y and using a level significance of 5%. For the 2-way test, the value of Df = n-2 is obtained, then Df = 30-2 = 28 and the r table value is 0.3610.

The reliability test of the research instrument was carried out on each of the two parts of the questionnaire received and the expected expectations. The instrument consists of 25 question attributes. Each instrument contains a question or statement attribute. Where each item is prepared with 4 answer intervals, the lowest answer is given a score of 1 and the highest is given a score of 4. The reliability test of the instrument was carried out using internal consistency which was analyzed using the Spearman-Brown formula[14]. Reliability test refers to the consistency or reliability of measurement results which implies measurement accuracy. Reliability is an assessment of the level of consistency of measurement results when several measurements are made on a variable. An unreliable measurement will result in an untrustworthy score. This measurement uses the Cronbach α technique, this α coefficient is 0-1, the higher the coefficient, the closer to the good[15], [16].

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Table 2. Reliability Statistics

Cronbach's Alpha	N of Items
.965	25

(source: Research Data)

The basic for making decicions is:

1) If $\alpha > 0{,}7$ positive but then the item or variable is reliable.
2) If $\alpha < r$ positive but the table then the item or variable is not reliable.

From the results of the above calculations, it is found that the reliability value is seen that α is positive and is greater than r table (0.965> 0.7), so the items above are reliable. Therefore, it can be continued to the next stage for analysis.

Testing the validity of this research sample was carried out on each of the two parts of the questionnaire received and expected expectations. The instrument consists of 25 question attributes.

Table 2. Sample Validity and Reability Testing

Item-Total Statistics				
	Scale Mean if Item Deleted	***Scale Variance if Item Deleted***	***Corrected Item-Total Correlation***	***Cronbach's Alpha if Item Deleted***
P1	77.66	203.569	.664	.965
P2	77.65	203.546	.632	.965
P3	77.43	204.853	.649	.965
P4	77.57	204.538	.691	.964
P5	77.64	202.787	.649	.965
P6	77.86	203.545	.648	.965
P7	77.94	200.404	.746	.964
P8	77.69	203.349	.654	.965
P9	77.56	201.750	.787	.964
P10	77.58	200.299	.743	.964
P11	77.60	200.402	.772	.964
P12	77.44	202.329	.796	.963
P13	77.77	200.024	.693	.964
P14	77.38	205.264	.682	.964
P15	77.35	205.020	.675	.964
P16	77.42	206.193	.655	.965

https://doi.org/10.30736/cvl.v2i2

ISSN (*Online*) 2503 - 2399
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P17	77.55	203.251	.693	.964
P18	77.79	199.588	.746	.964
P19	77.83	199.826	.819	.963
P20	77.74	199.511	.835	.963
P21	77.62	199.712	.764	.964
P22	77.58	200.141	.797	.963
P23	77.60	203.402	.652	.965
P24	77.73	201.833	.666	.965
P25	77.92	198.704	.782	.963

(source: Research Data)

Now it can be seen that of the 25 items (questions) all have r count above r table 0.3610 and all r tables are positive r result> r table so it can be said items 1-25 are valid.

Level of Conformity

The level of suitability is used to determine the order of priority improvement of the influencing factors. The level of conformity is obtained from the comparison of the satisfaction rating score () with the interest or expectation score (). This level of conformity will determine the priority order of increasing the influencing factors.

To get the value of the results of the calculation of the conformity level of the Madiun station service, the following are the measurement steps:

1. For item 1-25 questions filled in according to the questionnaire attributes.
2. Column the value of Xi (reality) is obtained from the calculation of the total number of respondents' assessment of the attributes of reality.
3. Column Yi value (expectation) is obtained from the calculation of the total number of attributes assessed by the respondents' expectations.
4. The average column () is obtained from the value of Xi divided by the number of respondents, namely 115 respondents.
5. The average column () is obtained from the value of Yi divided by the number of respondents, namely 115 respondents.
6. The suitability level column (%) is obtained from the value of Xi divided by the value of Yi times 100%.

https://doi.org/10.30736/cvl.v2i2

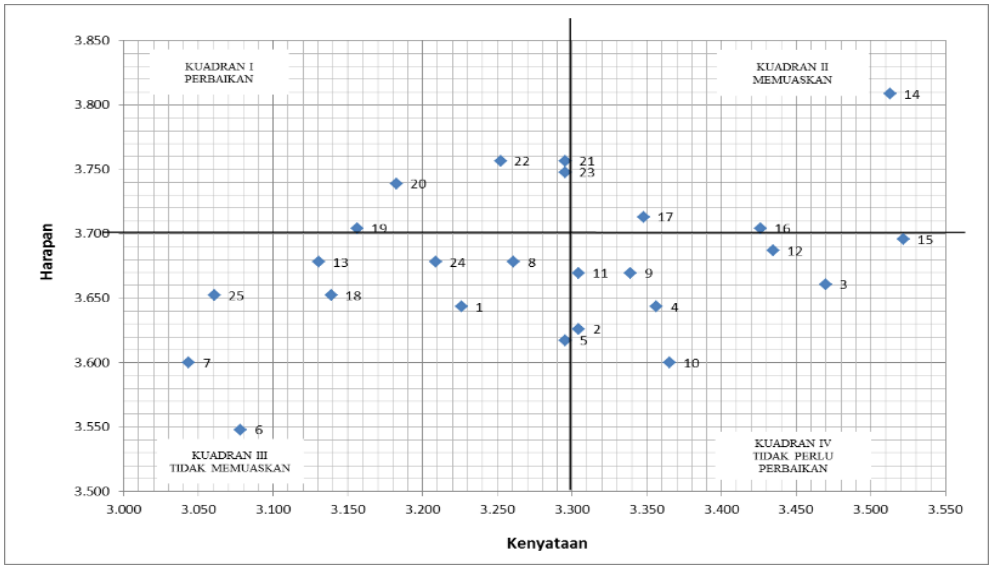
ISSN (*Online*) 2503 - 2399
ISSN (*Print*) 2503-2399

From the calculation results. The level of suitability in this study is 89.844%, where if the percentage level of suitability is 80-100%, it can be said that the performance of each attribute has met. Percentage> 100% can be said that the suitability level is good.

Quadrant Analysis with the IPA Method (Performance Analysis Index) on Readability

The results of the calculation regarding the level of conformity are then translated into four parts or quadrants of the Cartesian diagram. This is intended to obtain points on the diagram based on the level of performance and importance that allows the author to classify and prioritize improvement efforts on factors or attributes that are considered important and expected by passengers to obtain maximum satisfaction. The location of each attribute in the Cartesian diagram in the four quadrants is used as an alternative strategy to increase the readability of passengers. Besides, it also shows what attributes affect the readability level of passengers at Adi Soemarmo Airport station[17], [18].

The elements of the attribute will be grouped in one of four quadrants called the Cartesian diagram which is bounded by axes (3,3) and axes (3,7). The following is a Cartesian diagram of the factors affecting passengers.



(source: Research Data)

Figure 1. Quadrant Analysis Results With IPA Method

a. Quadrant I, Top priority (*Concentrate*)

https://doi.org/10.30736/cvl.v2i2

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Quadrant I shows attributes that have low performance but the expectations that consumers want are very high[19], [20]. Existing attributes are attributes that become top priority and must be implemented as expected. Attributes included in quadrant I include:

Table 3. Quadrant I

Attribute	Questions
19	Information on advanced transportation / other transportation integration in English is easy to read
20	Rail travel information and English-language complaints services are easy to read
21	Directional markers with a greater proportion of letter size/bookmark text than other information in English are easy to read
22	Service information in the form of station plans/layouts, station names, train operating schedules, train fares, directions/evacuation lines in case of an English-language emergency are easy to read
23	Special seating signs for pregnant women and elderly speaking English are easy to read

(source: Research Data)

b. Quadrant II, Maintain achievements (Keep up with the good work)

Attributes in quadrant II are attributes that have the performance and expectations according to the wishes of the passengers. Existing attributes are attributes that must be maintained. The attributes included in quadrant II include:

Table 4. Quadrant II

Attribute	Questions
14	The sign calling for a ban on smoking in English is easy to read
16	Boarding area signs and English-speaking lounges are easy to read
17	English-speaking places of worship directions are easy to read

(source: Research Data)

The attribute in this quadrant is that passengers are satisfied with the existing performance and need to be maintained.

c. Quadrant III, Low priority

https://doi.org/10.30736/cvl.v2i2

ISSN (*Online*) 2503 - 2399
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Attributes in quadrant III are attributes that have low performance and expectations from passengers are also low. Existing attributes are not prioritized. Attributes included in quadrant III include:

Table 5. Quadrant III

Attribute	Questions
1	English-language emergency rescue signs are easily visible
5	English emergency services information telephone number is easy to read
6	English-language security intrusion information is easily visible
7	Telephone number of the nearest police station / police station in the form of english signs or stickers are easy to read
8	CCTV signs in the station area can be seen
13	Travel disruptions and english-language train delays are easy to read
18	English-language rail travel disruption information is easy to read
24	Special room information for nursing mothers dean english speaking baby easy to read
25	Place signs for English-speaking children are easy to read

(source: Research Data)

Passengers do not feel the attributes in this quadrant are very important, passengers do not expect performance improvements.

d. Quadrant IV, Excessive (*Possible overkill*)

Attributes in quadrant IV are attributes that have high performance but expectations from passengers are not high. Existing attributes are redundant attributes. Attributes included in quadrant IV include:

Table 6. Quadrant IV

https://doi.org/10.30736/cvl.v2i2

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Attribute	Questions
2	Signs and information of English-speaking health facilities are easily visible and affordable
3	Assembly point in the area for passengers to be easily visible
4	English-language evacuation instructions and evacuation procedures read easily
9	English purchase procedure information boards and top ups are easy to read
10	The procedure for purchasing tickets at the manual counter or vending machine in English is easy to read
11	Information on operating schedule boards and network maps of English-language railway services are easy to read
12	English train arrival and departure information is easy to read
15	English toilet directions are easy to read

(source: Research Data)

Customer Satisfaction Index Analysis of Readability

The measurement results of the customer satisfaction index can be used as a reference for determining targets and are also needed because the measurement process is continuous. To get the Customer Satisfaction Index calculation value for the level of readability, the following are the calculation steps

1. Importance weighting factor (WF) for each attribute is obtained from the median score of the level of expectation divided by the average attribute of the performance level 2. The median score for the level of reality for each attribute is obtained from the average value of the reality attribute or average () 3. The weighted score (WS) for each attribute is obtained from the importance weighting factor multiplied by the median score for the level of reality 4. The customer satisfaction index is obtained from the total weighted score divided by the highest score, namely 4.The following are the results of the calculation of the customer satisfaction index and can be seen in Table 7.

Table 7. CSI calculation

Attribute	Average Expectations (Y^-)	Importing Weighthing Factor (WF)	Average Reality (X^-)	Weighted Score (WS)
1	3.643	0.050	3.226	0.160

https://doi.org/10.30736/cvl.v2i2

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ISSN (*Print*) 2503-2399

2	3.626	0.049	3.304	0.163
3	3.661	0.050	3.470	0.173
4	3.643	0.050	3.357	0.167
5	3.617	0.049	3.296	0.163
6	3.548	0.048	3.078	0.149
7	3.600	0.049	3.043	0.149
8	3.678	0.050	3.261	0.164
9	3.670	0.050	3.339	0.167
10	3.600	0.049	3.365	0.165
11	3.670	0.050	3.304	0.165
12	3.687	0.050	3.435	0.173
13	3.678	0.050	3.130	0.157
14	3.809	0.052	3.513	0.182
15	3.696	0.050	3.522	0.177
16	3.704	0.051	3.426	0.173
17	3.713	0.051	3.348	0.169
18	3.652	0.050	3.139	0.156
19	3.704	0.051	3.157	0.159
20	3.739	0.051	3.183	0.162
21	3.757	0.051	3.296	0.169
22	3.757	0.051	3.252	0.167
23	3.748	0.051	3.296	0.168
24	3.678	0.050	3.209	0.161
25	3.652	0.050	3.061	0.152
Total	73.339	1.000	65.896	3.296
	Customer Satisfaction Index (CSI)			0.824

(source: Research Data)

Based on the table, it shows the value of the customer satisfaction index of 0.824, the value is in the interval 0.80-1, which means that the passengers are "very satisfied" with the level of readability of information in English at Adi Soemarmo Airport station.

CONCLUSION

Based on the results of the analysis and discussion of the data, the conclusions obtained are:

https://doi.org/10.30736/cvl.v2i2

ISSN (*Online*) 2503 - 2399
ISSN (*Print*) 2503-2399

a. Based on the analysis using CSI (Customer Satisfaction Index), passengers are "very satisfied" with the level of readability of information in English at Adi Soemarmo Airport station with a customer satisfaction index value of 0.824.
b. Based on the results of the analysis using IPA (Index Performance Analysis), the things that become a priority for improving the readability of information in English at Adi Soemarmo Airport Station, Solo are:
    a. Further transportation information / other transportation integration in English;
    b. Travel information and complaint services in English;
    c. Direction signposts with a larger proportion of the size of the marker letter / text than other information in English;
    d. Service information in the form of station plans / layouts, station names, operating schedules, fares, evacuation directions / routes in case of an emergency in English; and
    e. Special seating signs for pregnant women and seniors in English

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ISSN (*Online*) 2503 - 2399
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