

# Review of Customer Satisfaction Index by INACA for Pattimura International Airport Ambon, Indonesia

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## Abstract

The Customer Satisfaction Index (CSI) is one of the leading indicators in a service business. Customer satisfaction assessment in Indonesian Airports is carried out with a survey by the INACA team. The purpose of this analysis study is to know the reason ups and downs of customer satisfaction and also give suggestions to increase the score. This study uses data from INACA's survey. CSI of Pattimura Airport in the last five years (2017-2022) has been going through ups and downs. From 2018 to 2019, a Terminal Building Expansion and Beautification project impacted the existing facilities, resulting in reduced passenger comfort. However, the significant increase in CSI score in 2020 indicates that the project was successful. In 2021, the CSI of Pattimura Airport reached 4.63 with the interpretation that the passenger was very satisfied. The lowest score is 4.60, which is the aspect of shopping facilities, restaurants, and cafes, so it can be concluded that this aspect needs to be improved to increase customer satisfaction.

**Keywords:** Customer Satisfaction Index, airport, INACA

## 1. Introduction

Customer satisfaction, known as the Customer Satisfaction Index (CSI), is a critical indicator in a service business. Customer satisfaction is essential in the aviation business, especially at airports. Airports around the world are competing to provide public facilities that prioritize the comfort and safety of passengers. For example, Jewel Changi Airport is the pride of Singapore (Schwitter, 2019). Vancouver International Airport - Canada has a giant aquarium and artificial forest (Hubregtse, 2017), and Hamad International Airport with luxurious gym facilities (Al-Amadi, 2022). Furthermore, shopping at Heathrow International Airport - U.K. (Gallop, 2019) is the service provider's effort to increase customer satisfaction. Customer service can be rated as excellent when the airport's ability to consistently exceed the needs and expectations of customers or passengers and gets the perception of its customers that their needs and expectations are well met.

Airports in Indonesia also have facilities that are no less interesting than overseas airports. For example, Soekarno-Hatta International Airport has Skytrain transportation, Juanda Surabaya International Airport with unique 3D toilets, the rooftop smoking area with beautiful views at I Gusti Ngurah Rai Airport in Bali, and various kinds of artworks that beautify the appearance of Yogyakarta International Airport are facilities that are pride for Indonesia to achieve the target value of customer satisfaction. Airport customer satisfaction assessment in Indonesia is carried out by a survey conducted by the INACA team once a year. Indonesia National Air Carriers Association or INACA is an association of Indonesian national airlines founded by airline entrepreneurs on October 15, 1970, and has been recognized as a government partner. INACA serves as a forum for unity between air transportation companies and other national aviation activities in Indonesia (INACA).

One of the airports that have conducted a customer satisfaction survey by INACA is Pattimura Ambon International Airport. Airports are the first meeting place for people with various ethnicities, races, languages, and nations so those cultural interactions occur which help encourage people to become more open in accepting all forms of cultural contact with the outside world. Pattimura Ambon International Airport is one of the transportation gateways of the Maluku Islands, which requires the airport to have the characteristics and charm of Maluku culture and tourism to provide exciting experiences and unforgettable impressions for passengers. With the increase of business and tourism in Ambon City, airport service providers improve good services supporting flight transportation.

Service providers prioritize service quality in organizing airport services to realize the 3S + 1C flight vision (Safety, Security, Service, and Compliance) (Meianto, 2022). Ambon Pattimura International Airport passenger facilities have met the standards and regulations that apply in aviation. The expansion and renovation of the Passenger Terminal have been carried out by increasing the terminal area and beautifying the interior exterior of the passenger terminal building. However, when it comes to customer satisfaction, more is needed. The Customer Satisfaction Index (CSI) Survey conducted by INACA proves that the value in the last five years has remained relatively high.

Ambon Pattimura International Airport passenger facilities have met the standards and regulations that apply in aviation. The expansion and renovation of the Passenger Terminal have been carried out by increasing the terminal area and beautifying the interior exterior of the passenger terminal building. However, when it comes to customer satisfaction, more is needed. The results of the Customer Satisfaction Index (CSI) Survey conducted by INACA prove that the value in the last 5 (five) years has

mostly stayed the same.

The author will discuss the Analysis of Customer Satisfaction Survey Results by INACA at Pattimura Ambon International Airport in this paper. The purpose of the survey is to increase customer satisfaction with airport services. The quality of service can be known from the facilities and services in meeting the standards and customer satisfaction of airport services. Through the results of the CSI survey conducted by INACA at Pattimura Ambon Airport in the last 5 (five) years, the purpose of this study is to determine the causes of the ups and downs of customer satisfaction scores and provide suggestions for increasing customer satisfaction scores at Pattimura Ambon Airport.

## 2. Literature Review

### 2.1 *Pleasure, Satisfaction, Quality, and Airports*

Pleasure has a positive effect on satisfaction. Pleasure can be defined as the result of positive interactions and basic emotional experiences. Therefore, pleasure is essential in analyzing one's behavior (Ryu, 2019). There is a significant relationship between pleasure and satisfaction. Someone will get satisfaction if they feel pleasure. So, pleasure is an essential factor in getting satisfaction. Customer satisfaction is a person's feeling after getting the performance results of something, where it is felt to be good or more than his expectations. It is considered one of the determinants of customer loyalty or loyalty. The Customer Satisfaction Index (CSI) is an equation model based on the assumption that customer satisfaction is triggered by several factors, namely perceptions or expectations, quality, feelings, price, and company image. These factors are the beginning of overall customer satisfaction and, consequently, turn into customer loyalty (Khan, 2020).

A company will ensure its employees can meet customer expectations and expectations. The value and index of customer satisfaction measure how satisfied customers are with the company's performance (Nurmahdi, 2019). To get maximum results, the company will find out what customers need. By conducting customer satisfaction surveys, companies will know what is missing from their services or products based on customer assessments, so they can improve the quality of their products. Service quality is an important factor in achieving customer satisfaction. Quality is the highest appreciation of service. Service quality is the fulfillment of consumer needs based on the level of excellence of products and services that are good with expectations so that they can fulfill the desires of consumers (Rohaeni, 2018). The concept of service quality is a quality standard that must be understood in providing services and adjusted to the appropriate standards such as ISO (International Standardization Organization) or related standards in the field of company services so that it is considered to have clear objectives with specification conformity to form customer satisfaction and become the pride of the company (Rezafjri, 2022).

Customer satisfaction will have an impact on the company's image. In services, airport managers or operators will make every effort to achieve high customer satisfaction values. According to the Ministry of Transportation of the Republic of Indonesia, airports are areas on land and/or waters with certain boundaries that are used as places for aircraft to land and take off, up and down passengers, load and unload goods, and places for inter and intermodal transportation movements, which are equipped with aviation safety and security facilities, as well as basic facilities and other supporting facilities (Kementerian Perhubungan Republik Indonesia, 2019). As an airport manager, a company engaged in services will create a good image to attract customers. In addition, the airport's image includes the airport's goals and plans, which are also important factors in distinguishing the airport from competing airports. Based on the theory of the relationship between satisfaction and image using the customer satisfaction index confirmed that satisfaction has a direct impact on

the image. It was found that the more positive the individual experience, the higher the satisfaction, which leads to the creation of a positive image (Ryu, 2019).

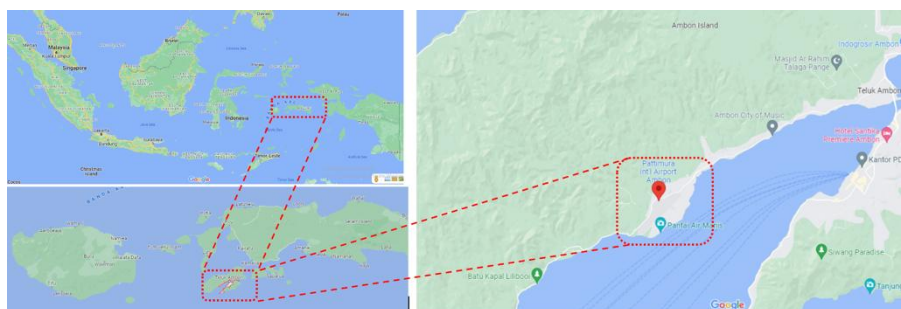
### 2.2 Indonesia National Air Carriers Association (INACA)

INACA is an Association of Indonesian National Aviation Companies founded by airline entrepreneurs on October 15, 1970. INACA serves as a forum for unity between air transportation companies and other national aviation activities in Indonesia. INACA is the only national aviation business association in Indonesia that is recognized as a government partner. This is written in the Decree of the Minister of Transportation No. KP 5/AU 701/PHB: KP 5/AU 701/PHB-89 on November 23, 1989. At the General Meeting of Members (RUA) held on June 11-12, 2010, in Bandung, IACA or Indonesia Air Charter Association, declared joining INACA. Until now, the number of members consists of 11 scheduled flight members, 22 non-scheduled flights, and 2 cargo flight members (INACA, 2020).

The Customer Satisfaction Index (CSI) measurement program is carried out regularly by the INACA team to encourage continuous improvement of services at airports. The measurement is intended to facilitate management utilizing information and decision-making to improve airport services, achieve customer satisfaction, and increase the company's business value.

### 3. Methodology

The research was conducted at Pattimura Ambon Airport, located in Ambon City, Maluku Province, Indonesia. Pattimura Ambon Airport is an airport owned by PT Angkasa Pura I, which is the entrance to the Maluku Islands. The location map can be seen more clearly in figure 1.



**Figure 1.** Location of Pattimura Airport

The method used in this research is a descriptive quantitative research method with a Secondary Data Analysis approach. Data is one of the leading forces in compiling scientific research and modeling (Rifai, Hadiwardoyo, Correia, Pereira, & Cortez, The data mining applied for predicting highway roughness due to overloaded trucks, 2015) . This research uses existing data (secondary data). The data was obtained from a survey conducted by INACA at Pattimura Ambon Airport. A systematic scientific research process must begin with identifying appropriate problems (Rifai, Hadiwardoyo, Correia, & Pereira, 2016) . The survey was conducted by distributing questionnaires. The questionnaire included several questions about customer profile data and several supporting questions.

Passenger questionnaire surveys pay attention to several things, namely, the distribution location in the departure lounge at 2 hours to 45 minutes before departure, the target respondent data represents airlines operating, airport operating hours, and gates in 7 days proportionally, respondents are selected randomly systematically, and the collected questionnaire data is arranged by questionnaire number, not reduced or added, as it is including failed questionnaires. The questionnaire data was processed through cleaning, weighting, and index calculation. The Importance Index and Satisfaction Index (CSI) have a value range of 1 to 5 with the following interpretation.

**Table 1.** CSI Interpretation and Importance

INDEX	CUSTOMER SATISFACTION INDEX (CSI)	IMPORTANCE
4,20 – 5,00	Very Satisfied	Very important
3,40 – 4,19	Satisfied	Important
2,60 – 3,39	Fair	Fair
1,80 – 2,59	Not satisfied	Not important

1,00 – 1,79

Not satisfied at all

Not important at all

The aspects and variables of the quality of PT Angkasa Pura I airport services measured in the CSI survey are derived from the five dimensions of SERVQUAL (Service Quality) developed by Parasuraman (Zeitham, Bitner 2000). First is a tangible dimension, including physical facilities (facilities and infrastructure), equipment, human resources, and communication facilities used to provide services. Second, the reliability dimension is the ability to provide the promised service promptly, accurately, and satisfactorily. Third, the responsiveness dimension is the ability of staff to help service users and provide services responsively. The fourth assurance dimension includes knowledge and the ability to provide customers with trust and security. Five empathy dimensions including the ability to communicate, pay attention, and understand the needs of service users. Based on the five dimensions of service quality, it is organized into ten aspects, which consist of several variables for each aspect. Details of variables and CSI measurement questions can be seen in table 2 (INACA, 2021).

**Table 2.** CSI Measurement Variables and Questions

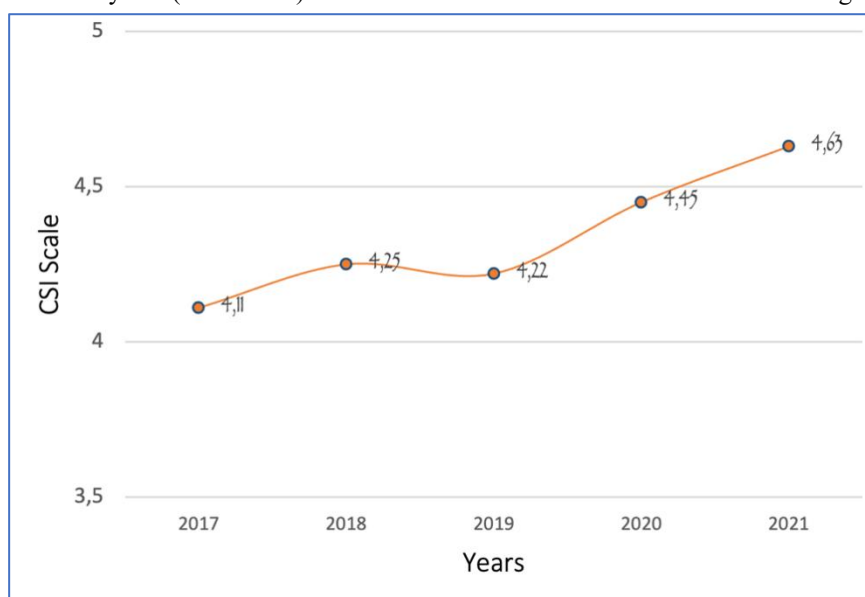
NO	ASPECT	VARIABLE/QUESTION
1	Airport Health Protocol	a. Parking area b. Covid-19 rapid test service c. Health document check (e-HAC)
2	Airport Information Services	d. Implementation of covid-19 health protocols at the airport e. Airport information services f. Flight guidance signs on the information screen (FIDS) g. Clarity of flight information on the information screen
3	Safety Check	h. Clarity of flight calls through loudspeakers i. Check-in queue waiting time (< 30 minutes) j. Security check thoroughness
4	Check-In Service	k. Politeness and dexterity of security personnel l. Check-in queue waiting time (<30 minutes) m. Check-in service speed (<2 minutes 30 seconds) n. Politeness and dexterity of check-in staff
5	Immigration and Customs (for international flights)	o. Immigration check queue waiting time (<20 minutes) p. Politeness and dexterity of immigration officers (<2 minutes) q. Customs queue waiting time (<20 minutes) r. Courtesy and dexterity of customs officers (<2 minutes)
6	Shopping facilities, restaurants and cafes	s. Shopping facilities, restaurants and cafes t. Product, food and beverage pricing information u. Friendliness of service outlets, restaurants and cafes
7	Terminal Facilities and Convenience	v. Availability of trolley w. Availability of ATM, Bank, Money Changer x. Availability of seating in the waiting area y. The coolness of air conditioning in the terminal (<25oC) z. Cleanliness of toilets aa. Cleanliness mosque bb. Baby room hygiene cc. Entertainment media dd. Complimentary internet/wifi service ee. Free charging ff. Smoking room/ smoking area gg. Kids zone
8	Airport Neighborhood	hh. Airport terminal atmosphere ii. Airport terminal cleanliness
9	Arrival services	jj. Baggage arrival waiting time (20-40 minutes) kk. Choice and ease of public transportation out of the airport
10	Supporting Data	1. The three most important variables, according to respondents 2. Best, worst experience, suggestions 3. Customer suggestion channels

4. Respondent Behavior Profile: aircraft, class, destination airport/country, the purpose of travel, and activities waiting for departure.
5. Respondents' demographic profile: city/district/country of residence, gender, age, occupation/profession.
6. Questionnaire identity: number, airport code, domestic/international, terminal, gate, surveyor/SPG

The most needed airport customer profile information is the profile of airplane passengers as the primary users of the airport passenger terminal. Aircraft passenger profile information includes passenger travel profiles, passenger behavior profiles at the airport, and passenger demographic profiles.

#### 4. Result and Discussion

Based on survey data from INACA, it is found that the CSI value at Pattimura Ambon Airport has increased in the last five years (2017-2021). The increase in value can be seen in the following figure:



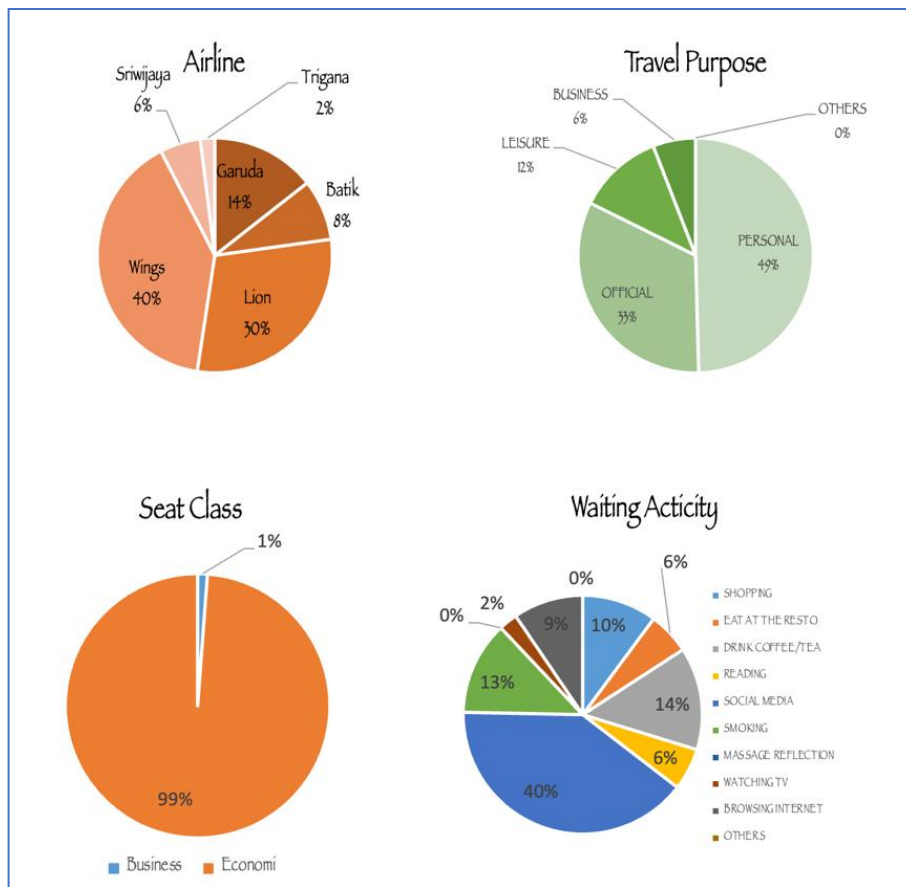
**Figure 2.** CSI of Pattimura Airport for the period 2017-2021

##### *CSI Interpretation*

- 4,20 – 5,00 : *Very satisfied*  
3,40 – 4,19 : *Satisfied*  
2,60 – 3,39 : *Fair*  
1,80 – 2,59 : *Not satisfied*  
1,00 – 1,79 : *Not satisfied at all*

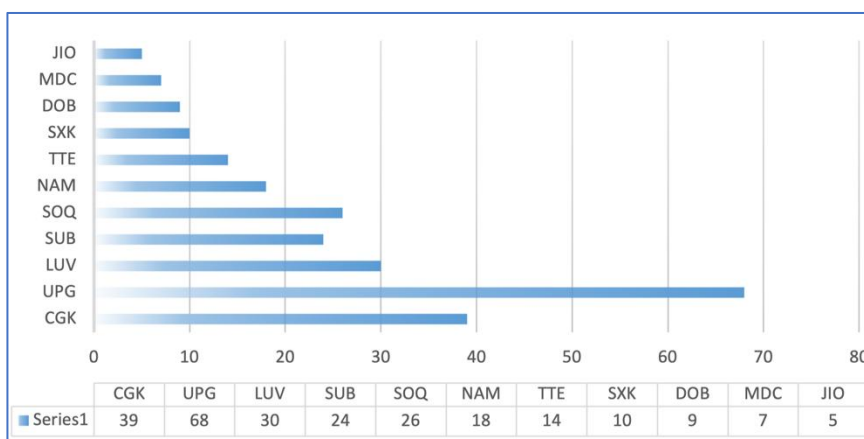
In figure 2, it can be seen that the CSI value of Pattimura Ambon Airport in the last five years (2017-2021) has fluctuated, whereas in 2017-2018, it increased. In 2019 it decreased, and in 2020-2021 it increased again. Based on the history of work at Pattimura Ambon Airport, from 2018 to 2019, there was a Passenger Terminal Expansion and Beautification Work project. The work impacted the existing passenger terminal facilities, where several facilities underwent restoration so that they could not be used optimally. Many concessions (restaurants, cafes, and retail) were closed and not operating. This impact resulted in passengers feeling less comfortable using the facilities at the airport, so the CSI value in 2019 decreased.

The significant increase in the CSI value in 2020 shows that the expansion and beautification work of the Pattimura Ambon Airport Passenger Terminal has produced good results. The addition of space capacity and renovation of facilities that have been completed have succeeded in increasing passenger comfort and satisfaction at the airport. The correspondents taken were 250 passengers with various types of passengers. In the CSI measurement, passenger profiling was carried out based on behavior, and demographic profile, can see in figure 3. Wings Air is the largest airline chosen by respondents, with more than 40%. While the goals of the passengers who became respondents were mostly personal activities, which amounted to 49%, followed by official activities by 33%. If you pay attention to the class chosen by the passengers, the business class is only 1%. Furthermore, about 40% do their social media activities when passengers must do waiting activities.



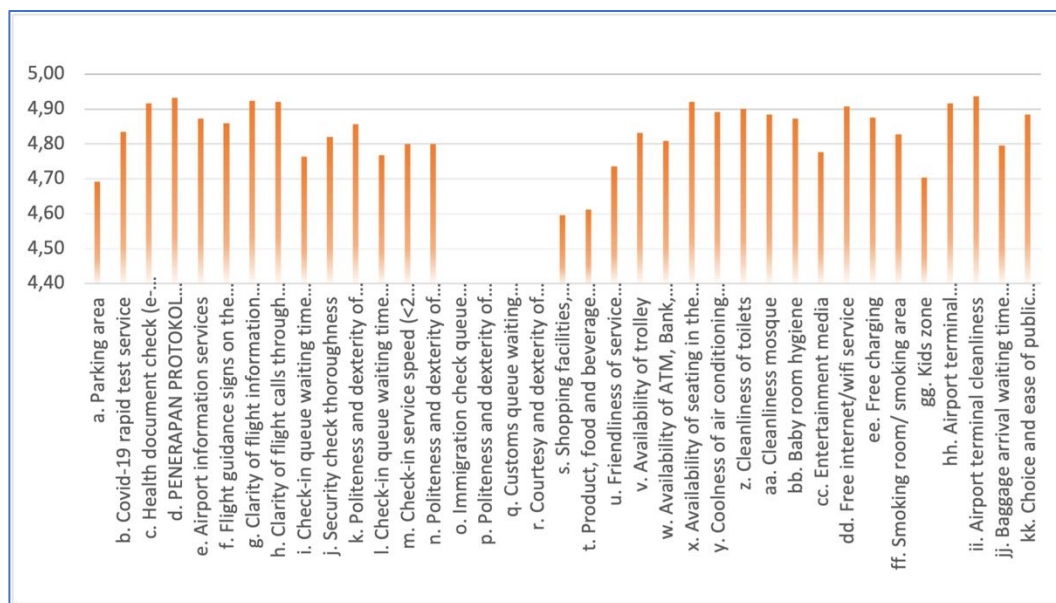
**Figure 3.** Characteristic of correspondents

Pattimura International Airport (IATA: AMQ, ICAO: WAPP), also known as Ambon Airport, is located in Ambon City, Maluku Province, Indonesia. This airport also serves domestic and international travel. The airport is 35 kilometers outside Ambon City, with a travel time of approximately 30-45 minutes. This airport has immigration, quarantine, customs, cargo buildings, restaurants, public telephones, and post offices. Ambon Pattimura Airport is a very strategic area in the Maluku Islands, which is divided into two provinces, namely, North Maluku and Maluku. Based on the data filled in by the respondents, most of them are traveling from or to Makassar. The flight choice is because Makassar is a hub city for eastern Indonesia. Details and descriptions of passenger origin and destination data can be seen in figure 4.



**Figure 4.** Destination of correspondents

Passenger CSI analysis shows the position of each aspect seen based on the Importance and Satisfaction values to determine the priority order of improvement and improvement of airport services. Details and descriptions of passenger satisfaction can be seen in figure 5.



**Figure 5.** CSI of Pattimura Airport in 2021

In 2021, the CSI results of Pattimura Ambon Airport passengers reached a value of 4.63, with the interpretation that passengers were delighted. From these results, it can be seen in Figure 3 that the aspect that achieved the highest score was the airport environment aspect, the airport terminal cleanliness variable, with a value of 4.94. While the lowest value of 4.60 is in the aspect of shopping facilities, restaurants, and cafes, variable choice of shopping facilities, restaurants, and cafes. Based on the research location survey results, there are still many concession spaces that still need to operate due to the lack of passengers due to the impact of the Covid-19 pandemic. Variable points O, P, Q, and R in Figure 3 are aspects of Immigration and Customs for international flights. In 2021, there are no international flights at Pattimura Airport Ambon because Indonesia is still in the COVID-19 pandemic, where international flights are limited and only exist at certain airports.

## 5. Conclusion

In this study, it can be concluded that the CSI of Pattimura Ambon Airport experienced fluctuations, where in 2017-2018, it increased. In 2019, it decreased, and in 2020-2021 it increased again. In 2021 the CSI of Pattimura Ambon Airport reached a value of 4.63 with the interpretation of delighted passengers. The highest value is found in the airport environment aspect, the airport terminal cleanliness variable, with a value of 4.94. While the lowest value of 4.60 is in shopping facilities, restaurants, and cafes, the variable choice of shopping facilities, restaurants, and cafes. From that assessment, the aspects that need to be improved and enhanced to increase the level of customer satisfaction are the choice of shopping facilities, restaurants, and cafes. In this New Normal era, it is expected that the number of passengers will increase so that services at the airport must also increase.

## Bibliography

- Al-Amadi, D. (2022). Form and Function in The Pearl-Qatar Artificial Island Development. *Proceedings of the International Conference of Contemporary Affairs in Architecture and Urbanism-ICCAUA. Vol. 5. No. 1*, Vol. 5. No. 1.
- Gallop, A. (2019). *Heathrow Airport: Yesterday, Today & Tomorrow*. British: Pen and Sword.
- Hubretse, M. (2017). Art Before and Beyond The International Air Terminal's Border Zone The Placement of First Nations Artworks in the Disparate Political Spaces at Vancouver's YVR. *Journal of the Society for the Study of Architecture in Canada*, 15.
- INACA. (2020). *Profil INACA*. Retrieved from Indonesia National Air Carriers Association: <https://inaca.or.id/profil/>
- INACA. (2021). *Laporan Akhir Customer Satisfaction Index Tahun 2021*. Jakarta: INACA.
- INACA. (2022, November 26). *inaca.co.id*. Retrieved from [inaca.co.id](https://inaca.or.id): <https://inaca.or.id>
- Isradi, M., Farhan, M.N., Rifai, A.I., Mufhidin, A., & Prasetijo, J. (2021) Analysis of Passenger Satisfaction with LRT Jakarta Services Route Velodrome-Boulevard Utara, *International Journal of Transportation and Infrastructure*, pp 26-35

- Isradi, M., Molina, P., Rifai, A.I., . Muftidin, A., Prasetyo J. (2021), Evaluation of Performance and Services of Integrated Transportation System (Case Study: Connecting Line between MRT Dukuh Atas Station and KRL Sudirman Station), Proceedings of the International Conference on Industrial Engineering and Operations Management, Harbin, China, pp 496-507
- Kementerian Perhubungan Republik Indonesia. (2019). Pengertian, Peran dan Fungsi Bandar Udara. Retrieved from [hubud.dephub.go.id](http://hubud.dephub.go.id): <https://hubud.dephub.go.id/hubud/website/Bandara.php>
- Khan, M. A. (2020). Tourist satisfaction index for tourism destination, integrating social media engagement into the European customer satisfaction index: a conceptual paper. *International Journal of Academic Research in Business and Social Sciences* 10.9, 72-90.
- Meianto, S. A. (2022). Work effectiveness in relation with communication, workload, and work discipline. *Linguistics and Culture Review* 6, 134-145.
- Nurmahdi, A. (2019). Customer satisfaction index for transport services. *Customer satisfaction index for transport services*, 1.
- Rezfajri, M. a. (2022). Analysis of Service Quality and Customer Satisfaction Using Customer Satisfaction Index and Importance-Performance Analysis Methods in P.T. Angkasa Pura II, Branch Sultan Syarif Kasim II Airport, Pekanbaru. *International Conference of Business and Social Sciences*, 79-95.
- Rifai, A. I., Hadiwardoyo, S. P., Correia, A. G., & Pereira, P. A. (2016). Genetic Algorithm Applied for Optimization of Pavement Maintenance under Overload Traffic: Case Study Indonesia National Highway. *Applied Mechanics and Materials (Vol. 845)* (pp. 369-378). Trans Tech Publications Ltd.
- Rifai, A. I., Hadiwardoyo, S. P., Correia, A. G., Pereira, P., & Cortez, P. (2015). The data mining applied for the prediction of highway roughness due to overloaded trucks. *International Journal of Technology*, 6(5), 751-761.
- Rifai, A.I., Prasetyo, E., Rhismo (2023). Analysis of Community Satisfaction Level on the Road Rehabilitation and Reconstruction Project (Learn from Palu Disasters Area). In: Kristiawan, S.A., Gan, B.S., Shahin, M., Sharma, A. (eds) Proceedings of the 5th International Conference on Rehabilitation and Maintenance in Civil Engineering. ICRMCE 2021. *Lecture Notes in Civil Engineering, vol 225*. Springer, Singapore. [https://doi.org/10.1007/978-981-16-9348-9\\_27](https://doi.org/10.1007/978-981-16-9348-9_27)
- Rohaeni, H. a. (2018). Kualitas Pelayanan Terhadap Kepuasan Pelanggan. *Jurnal Ecodemica* 2.2 (2018), 312-318.
- Ryu, Y. K.-W. (2019). Investigating the effect of experience in an airport on pleasure, satisfaction, and airport image: A case study on incheon international airport. *Sustainability* 11.17 , 4616.
- Schwitzer, C. a. (2019). Changi Jewel: Pushing the limits on shell design. *Proceedings of IASS Annual Symposia. Vol. 2019. No. 22. International Association for Shell and Spatial Structures (IASS)*, Vol. 2019. No. 22.
- Taufanudin, M. S., Isradi, M. , Rifai, A.I., W. B. Dermawan (2021), Analysis of the Level of Consumer Satisfaction with the J.R. Connexion Bus Transportation Service on the Cibubur-Blok m route, *World Journal of Civil Engineering* Vol. 3 No. 5, pp472-480