

Analysis of the Use of Aviobridge to Improve on Time Performance at Jenderal Ahmad Yani International Airport Semarang

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Abstract

The time factor is a crucial factor in airlines. So that the timeliness of on time performance (OTP) is important in the world of aviation. This study aims to determine the use of aviobridge and the impact of using aviobridge in increasing on time performance at Jenderal Ahmad Yani International Airport Semarang. This research uses a quantitative descriptive method. The population and sample of this study are monthly airline data including flight schedule data, actual airline data, on time airline data, and airline data using aviobridge. The data analysis carried out consisted of reduction, data presentation, and drawing conclusions. The results of this study indicate that there is an influence from the use of aviobridge on on time performance at General Ahmad Yani International Airport Semarang with H1 accepted because there are significant results from the two variables. These results show that in December 2022 the total average use of aviobridge was 155.7%, which affected delays with an average of 22% and a ratio of 1:1.13.

Keywords: Aviobridge, On Time Performance, Airport



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INTRODUCTION

Air transportation mode is one of the modes of transportation that is very important in Indonesia today. Air transportation mode allows people to move goods and people in just a matter of hours. A thing that is very impossible to do using sea transportation modes or land transportation modes. Therefore the existence of air transportation modes is becoming increasingly important at this time. This is considering the human need for a means of transportation that is fast, safe, comfortable at an affordable price. This situation is a great opportunity for certain groups to establish an airline company to meet the demands of efficient transportation needs.

According to Annex 14 concerning Aerodrome Volume II of 2009, it is explained that an airport is a certain area on land or water (including buildings, facilities and equipment) intended to be used for departures, arrivals and movement partly or wholly from land to aircraft. According to PT Angkasa Pura I (Persero) said that an airport is an airfield which includes at least a building and all facilities to ensure the availability of facilities for air traffic and the public.

Then according to General Ahmad Yani International Airport Semarang is a supporting infrastructure for air transportation, where aircraft take off and land. In an aviation there are several factors, one of which is a factor that is used as a quality standard for companies engaged in air transportation services. Jenderal Ahmad Yani International Airport Semarang has a new terminal which has been officially operational on June 6 2018. The new terminal of Ahmad Yani Airport Semarang has an area of 58,652m² with an apron area of 72,522m² which can accommodate 12 airplanes (narrow body) and two planes wide body (wide body). Using the

eco green concept that can accommodate 6.9 million passengers per year. There are various kinds of additional facilities at the new terminal, one of which is the aviobridge which is one of the additional facilities that has just been used since the operation of the new terminal, there are 3 aviobridge units which are in good condition and plans to add 2 more units at parking stands 4 and 8. Factors Time is a crucial factor in airlines. On this basis, the timeliness of On Time Performance is important in the world of aviation. The flight schedule time must be in accordance with the actual departure time. So that the punctuality of flights can give confidence to passengers and can increase the competitiveness of airlines. The higher the level of professionalism and responsibility of the airline company.

On Time Performance is one of the performance appraisal indicators for airline companies. On Time Performance is the airline's ability to depart or arrive on time. On Time Performance is a measure that shows the ability of transportation facilities to arrive on time at their destination. On Time Performance is very closely related to delay or delay. The definition of delay based on Law Number 1 of 2009 concerning Aviation is the occurrence of a time difference between the scheduled departure or arrival time and the actual departure or arrival time. Delay can be interpreted as a condition that occurs on a flight where there is a discrepancy in the proper schedule. If the flight schedule is delayed, the On Time Performance will not be achieved and this will cause a series of delay problems on the flight schedule because customers rely heavily on punctuality and if they don't get it. They will look for other alternatives to travel. This is what airlines try to anticipate in whatever conditions and constraints they face in their operational activities.

One of the factors for flight delays is operational technical factors caused by airport conditions at the time of departure or arrival. One of the operational activities that requires quite a lot of time is when carrying out the boarding pass process. The boarding process is an activity that takes quite a long time, especially if there are quite a lot of passengers, an aviobridge is needed to make it easier for passengers to get into the plane so that it can speed up when the operational process takes place.

Aviobridge or garbarata is an airport facility in the form of a bridge that connects the terminal, building or passenger building with the aircraft on the apron. The function of the aviobridge is to provide comfort for passengers when entering and leaving the aircraft so they are protected from heat, rain, aircraft engines, jet blast, and noise. The current aviobridge technology is also getting more sophisticated because the aviobridge can move horizontally, up and down, besides that it can also rotate up to 175 degrees.

Aviobridge is operated by aviobridge operation officers who join as Apron Movement Control (AMC) officers. In addition, the aviobridge operation uses a monitor control desk located in the cabin, the aviobridge is equipped with CCTV so that it can monitor conditions around the aviobridge. This control system has been integrated with safety equipment and electronic control system tools called programmable logic controllers located in the console box. The aviobridge cabin faces towards the front and to the left of the front of the cabin making it easier for the operator to be able to see the direction of the aircraft clearly when operating the aviobridge. Operators must really understand all the functions of the control buttons correctly so they can operate the aviobridge properly and according to standard operating procedures or SOPs. Of course, with the aviobridge, it can make it easier for passengers to enter the plane. With the aviobridge it is also hoped that it can shorten the time in boarding. This of course can help to improve On Time Performance.

The formulation of the problem in this study is: How is the process of using an aviobridge at Jenderal Ahmad Yani Airport, Semarang? What is the impact of using an aviobridge in

increasing On Time Performance (OTP) at Jenderal Ahmad Yani International Airport in Semarang? The research objectives are: To find out the process of using an aviobridge at General Ahmad Yani International Airport, Semarang. To find out the impact of using an aviobridge in increasing On Time Performance (OTP) at Jenderal Ahmad Yani International Airport Semarang.

Relevant Research

Table 1. Relevant Research

No	Name	Title	Year	Research Result
1	Rofifah Nur Aini dan Edriana Pangestu	Airline Efforts to improve On Time Performance (OTP) performance	2019	The results of this study address the efforts made by Garuda Indonesia airlines in improving the performance of On Time Performance (OTP), one of which is with half way boarding, half way boarding is an initiative program to support the achievement of On Time Performance (OTP).
2.	Putur Giri Birawa	The Role of Apron Movement Control (AMC) in Aviobridge Operations at Adi Soemarmo Boyolali International Airport	2022	The results of the study show that at Adi Soemarmo Airport, the AMC Unit plays an important role in the operation of Aviobridge. This role complies with applicable regulations and Standard Operating Procedures (SOP). Constraints experienced include Aviobridge errors, human errors, and a lack of human resources. However, this can be handled properly through the Apron Movement Control unit in coordination with internal or external units in solving problems.
3.	Farida Okta Susila	Optimizing the Use of Aviobridge to Achieve Garuda Indonesia's On Time Performance (OTP) at Terminal 2 of Juanda International Airport, Surabaya	2019	The results showed that the number of On Time Performance flights using the aviobridge during peak hours from 06.00 to 14.00 in January reached 127 times with a percentage of 59%.

Source: Previous researchers

Hypothesis

The hypothesis is a temporary answer to the research problem formulation, where the problem formulation has been made in the form of a question. It is said temporarily, the answers given are only based on a relevant theory, not yet based on facts or valid data obtained through the collection of data that has been researched. This study aims to determine how much the use of aviobridge has on on time performance at Jenderal Ahmad Yani International Airport Semarang:

1. Ho: There is no effect on the use of aviobridge to achieve on time performance (OTP) at Jenderal Ahmad Yani International Airport, Semarang.
2. Ha: There is an influence on the use of aviobridge to achieve on time performance (OTP) at Jenderal Ahmad Yani International Airport, Semarang.

RESEARCH METHODS

Research Design

In this study, researchers will use a type of quantitative descriptive research. According to (Sugiono 2018) quantitative descriptive research analysis is used to analyze data by

describing or describing the collected data as it is without intending to make general conclusions or generalizations, by utilizing primary data and secondary data from research that has been conducted. This quantitative descriptive statistical method only explains the existing data to determine sample comparisons. In this study, the primary data can be taken from the observations that the researchers made during the research and for the secondary data taken from the number of flights, flight on time performance data, the use of aviobridges, as well as data that do not use aviobridges, for one month starting from December 1 to by 31 December 2022. This data can illustrate how much influence the use of aviobridge has to achieve on time performance at Jenderal Ahmad Yani International Airport Semarang.

Time and Place of Research

Researchers conducted research on objects that became the center of researchers. The time used by researchers to conduct this research was carried out for 1 (one) month, starting from 1 August 2022 to 31 August 2022. The place for conducting this research was carried out at PT Angkasa Pura I General Ahmad Yani International Airport Semarang to obtain data according to the problem under study.

Population

According to (Sugiono 2018) states that, the population is a generalized area consisting of objects that have certain characteristics and have the same opportunity to be selected as members of the sample. The population in this study is monthly airline data including flight schedule data, actual airline data, on time airline data, airline data that uses aviobridge at Jenderal Ahmad Yani International Airport Semarang. The population is the entire data source needed in a study.

Sample

According to (Sugiono 2018) states that the sample is part of the number and characteristics possessed by the population. If the population is large, it is impossible for the researcher to study everything in the population, for example due to time and manpower limitations, the researcher can use the sample taken from that population. In this study using real data for 1 month in January 2023 from the results of airline flight schedule data, actual airline data, on time airline data, airline data using aviobridge at Jenderal Ahmad Yani International Airport Semarang.

Data Collection Technique

The research data collection technique is a measuring tool used in a research activity, especially as a measurement and data collection. This measurement tool can be in the form of questionnaires, observation sheets, and observation guidelines and others. (Sugiono 2019) argues that data collection techniques are an important and major step in research, because the main purpose of research is to obtain data. In this study, the techniques used are: 1. Literature Study:

1. Library Studies is part of a scientific work that discusses previous research as a reference. Library Studies are very important as a theoretical basis relevant to the research theme. According to (Sugiyono 2019) Literature studies are related to theoretical studies and other references related to values, culture and norms that develop in the social situations studied.
2. Observation: According to (Sugiyono 2022) observation is a data collection technique for observing human behavior, work processes and natural phenomena, as well as respondents. In this study, the researcher aimed to make direct observations in finding and determining

field facts. In general, observation aims to collect data that is used to answer various problems that arise. In addition to collecting data, this observation is also carried out with the aim of obtaining a basic conclusion about the object being observed.

Data Type

1. Secondary Data. According to (Sugiyono 2019) secondary data is a source of data that is indirectly received by data collection, either through other people or through documents. Secondary data sources are data sources that function to complete the required data. Secondary data in this study is data on the number of aircraft that use an avoiobridge and those that do not use an avoiobridge for 1 month, namely in December 2022 at Jenderal Ahmad Yani International Airport, Semarang.
2. Primary Data. According to (Sugiyono 2022) primary data is a source of data that directly provides data to data collectors. Data is collected by the researcher himself directly from the first source or where the object of the research is done. And the primary data that researchers get is data from observations during research in the field.

RESEARCH RESULTS AND DISCUSSION

How is the process of using an aviobridge at General Ahmad Yani International Airport Semarang.

The process of using an aviobridge is in accordance with IK/SRG-OP/PA-04-05 or what is often referred to as an operational work instruction for General Ahmad Yani Semarang International Airport, with this work instruction guaranteeing the quality of aviobridge services to prioritize safety, fast in service, Convenience at General Ahmad Yani International Airport, Semarang. The process of using an aviobridge for service standards is less than 2 minutes if the operation of the aviobridge exceeds 2 minutes, it can be said that the aviobridge service process does not meet the company's operational standards (SOP). The docking stage on the use of aviobridge, namely:

1. Make sure the interior and exterior lights and air conditioning are on.
2. Rotate the red emergency stop button to the right.
3. Press the power button until the button actually lights up.
4. Enter the aviobridge key, turn the keyswitch in the manual position.
5. Ensure the aviobridge cockpit door is closed until the aviobridge docking process is complete.
6. Ensure that the new aviobridge is permitted to be moved closer to the aircraft if the aircraft has stopped completely and the wheels have been propped up with a wheel chock and the engine and anti-collision lights have been turned off and have received a clearance sign from the aircraft engineering indicating that conditions are ready to move the aviobridge.
7. Move and position the aviobridge towards the front aircraft door. In this process the aviobridge operator must slow down the speed of the aviobridge when the aviobridge is at a distance of approximately 2 meters from the aircraft.
8. Position the aviobridge bumper about 10 to 20 cm below the floor of the aircraft door and place safety shoes under the aircraft door. This is a preventive measure if the auto level does not work properly and the safety shoes can function.
9. Ensuring the area around the aircraft is safe.
10. Lower the aviobridge canopy after the bumper attaches to the correct position then turn the keyswitch to the auto indicators auto level on position.
11. Make sure the aviobridge is installed perfectly,

12. The ground handling officer opens the service cabin door, the aircraft door can be opened.
13. Fill out the aviobridge form before leaving aviobridge.

De-Docking implementation stage on the use of aviobridge:

1. The aviobridge operator must be at the aviobridge 5 minutes before the aircraft door is closed to check that the situation around the aviobridge movement area is safe from the movement of people and vehicles from ground handling.
2. When the aviobridge is withdrawn or what is often referred to as undocking, the key position must be turned in the manual switch position, the safety shoes must be put in place and the auto level automatically detaches from the aircraft wall. Make sure the aircraft door is closed properly and the aviobridge is closed before the undocking process begins.
3. Pull the canopy from the plane to its original position.
4. Make sure the aviobridge movement area is safe.
5. Pull back the aviobridge approximately up to 1.5 meters while raising the height of the aviobridge and positioning the wheels straight on the predetermined markers.
6. Turn the keyswitch to the off position until the manual indicators are off.
7. Press off on the power button.
8. Press the red emergency stop button.
9. Turn off the AC, the tunnel and aviobridge lights are not on, then remove the aviobridge ignition key.
10. The aviobridge operator fills in the dedocking time and signature then asks the ground handling officer to fill in the passenger, baggage, cargo data on the aviobridge form before leaving the aviobridge.

The impact of using an aviobridge in achieving on time performance at Jenderal Ahmad Yani International Airport, Semarang.

Description of data on time performance (OTP) departure arrival, delay and total use of aviobridge.

Table 2. Report on On Time Performance, Delay and Total Use of Aviobridge for the December 2022 Period

No	Aircraft	Flight (Real)	Total Aviobridge Usage	On Time Performance	Delay
1	BTK	352	351	333	19
2	LNI	327	214	304	23
3	CTV	216	212	182	34
4	GIA	141	141	136	5
5	SJV	180	94	161	19
6	LKN	93	54	64	29
7	SJY	45	24	20	25
Total		1.354	1.090	1.200	154
Average		193,4	155,7	171,4	22%

Source: Research Processed Data, 2023

The interpretation of the number of on time performance departure and arrival data as in table 2 is: the average number of flights and the percentage of delays during the period 01 December 31 December 2022 at Jenderal Ahmad Yani International Airport Semarang amounted to 193.4 the number of departure and arrival flights, 155.7 total use of aviobridges, the number of on time performance was 171.4, the number of departure and arrival flights and the percentage of delay was 22%.

Table 3. Reports on Non-Aviobridge Aircraft, On Time Performance, and Delays for the December 2022 Period

No	Aircraft	Flight (Real)	Total Aviobridge Usage	On Time Performance	Delay
1	WON	95	0	32	63
2	AIRFAST	18	0	8	10
Total		113	0	40	73
Average		56,5	0	20	36,5

Source: Research Processed Data, 2023

The interpretation of the on time performance departure and arrival data as shown in table 3 is: the average number of flights and the percentage of delays during the period December 1 to December 31 2022 at Jenderal Ahmad Yani International Airport Semarang was 56.5 the number of departure flights and arrival, 0 for the use of aviobridge, the number of on time performance is 20, the number of departure and arrival flights and the percentage of delay is 36.5%.

CONCLUSION

The process of using the aviobridge at Jenderal Ahmad Yani International Airport in Semarang has met the Company's Operational Standards (SOP) with the work instruction document number for operating garbarata/or aviobridge IK/SRG-OP/PA-04-5. These results show that in December 2022 the total average use of aviobridge was 155.7%, which affected delays with an average of 22% and a ratio of 1:1.13. From the results of the comparison in December 2022 it can be concluded that the use of the aviobridge has an effect on on time performance at Jenderal Ahmad Yani International Airport Semarang.

Suggestion For aviobridge / aerobridge operators, based on research that has been conducted on researchers, garbarata operators have been very cooperative in carrying out their duties and are in accordance with the company's operational standard SOP. However, there is still a lack in terms of human resources (HR), so more attention is paid to HR, especially the aviobridge operator, so that in the future it will be even better. For future researchers, due to the limitations of researchers, the results of this study are expected to add insight into knowledge related to the analysis of the use of aviobridge to achieve on time performance (OTP), and it is hoped that future researchers will get a good research model supported by strong theory, so it is recommended to do more other research references that are able to support the topic under study, as well as further broaden the research area in order to obtain even better research results.

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