EVALUATION OF THE NEED FOR BTT (BAGGAGE TOWING TRACTOR) FOR GROUND HANDLING OPERATIONS AT DJALALUDDIN GORONTALO AIRPORT

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ABSTRACT
This research aims to evaluate the need for Baggage Towing Tractors at Djalaluddin Gorontalo Airport to support smooth ground handling operations as the number of passengers increases. Through qualitative descriptive methods, data was collected through observation and interviews. The research results show that the existing Baggage Towing Tractor is outdated and does not comply with regulations, so it needs to be rejuvenated and added units to improve service. The implementation of Standard Operating Procedures (SOP) must also be improved by ground handling officers to ensure the safety and smooth operation of the airport. This research suggests replacing old units with new ones and adding spare units to support passenger growth and airport operations.

Keywords: Evaluation, Operation, Ground Handling

1. INTRODUCTION

Djalaluddin Gorontalo Airport is a class 1 airport managed by the Technical Services Unit of the Directorate General of Civil Aviation. This airport is located on Jalan Satria Angkasa No. 274, Isimu Sel Hamlet, Tolotio Village, Tibawa District, Gorontalo Regency, and was officially inaugurated on May 1 2016. Djalaluddin Airport has a 2,500 meter long runway and a new terminal covering an area of 11,865 square meters which was built in 2013 and completed in 2015. This terminal can accommodate up to 2,500 passengers. Apart from development on the land side, this airport is also experiencing development on the air side with the construction of an apron measuring 130 x 291 meters which can accommodate Airbus A320 series, Boeing 737 series, ATR and Bombardier aircraft.

This growth in activity at airports certainly has an impact on the operation of various airport components, including personnel, airside facilities such as aircraft operational support equipment or Ground Support Equipment (GSE)[1], as well as landside facilities which are increasingly required to work harder in serving airport activities in accordance with with flight needs at Djalaluddin Gorontalo Airport.

Airport activities include various important activities such as transfer between modes of transportation, take off, landing, maneuvering aircraft in the apron area, movement of vehicles on the air side, as well as movement of goods, post, cargo and passengers. This activity is becoming increasingly important along with the increasing needs of people who are starting to use air transportation as their main choice. Airport operations involve various officers who have special fields and skills. One of the key personnel in airport operations is Apron Movement Control (AMC), who is responsible for managing and supervising all movements on the apron, including the movement of Ground Support Equipment (GSE)[2]. GSE is operated by ground handling personnel, whose job is to provide service and handling of aircraft while they are on the ground[3].

GSE equipment plays a vital role in making work and service easier for passengers and aircraft while the aircraft is on the ground. GSE operations, including Baggage Towing Tractors (BTT), must be carried out by officers who have a special license[3]. BTT is an important vehicle used to move passenger baggage from the plane to the terminal or vice versa. The use of BTT is regulated by government regulations regarding

operational age limits for airside vehicles, as stated in Minister of Transportation Regulation Number 91 of 2016[4]. Non-compliance with the use of BTT with regulations can endanger airside activities and aircraft operations.

As the number of passengers and flights served increases, the need for BTT vehicles also increases. Data from the Gorontalo Province Central Statistics Agency and the Djalaluddin Gorontalo Class I UPBU Services Office shows an increase in the number of passengers from year to year, especially between 2014 and 2018. The average increase in the number of passengers of 0.13% per year shows that service at the airport This must continue to be improved to ensure flight safety, security and comfort.

BTT vehicles are not only used to operate Baggage Cargo Cart (BCC), but can also tow other GSE equipment such as ground power units, container dollies, passenger boarding stairs, manual conveyor belt loaders, and various other non-motorized GSE. However, at Djalaluddin Gorontalo Airport, there are only two BTT units in operation, each operated by two different ground handling companies: PT. Arkana Dirga Indonesia and PT. Langgang Buana Perkasa. This causes service to be less than optimal, especially when clash handling occurs, namely double service to aircraft on two different aprons, namely Apron Alpha and Apron Bravo.

The lack of operational BTTs makes the work of ground handling personnel more difficult and less optimal in providing services to aircraft. This can be seen in situations where ground handling personnel are forced to push baggage carts manually due to a lack of available BTT, a practice that is not only inefficient but also high risk. Apart from the shortage in the number of BTTs, field observations and interviews show that the existing BTTs do not comply with applicable regulations, namely Minister of Transportation Regulation Number 91 of 2016 concerning maximum age limits for airside vehicles. The BTT currently used was produced in 2009 and 2011, which means it has exceeded the permitted operational age limit. The use of BTT that does not comply with these regulations has the potential to endanger aviation security and safety.

Aviation security and safety is a crucial aspect regulated in Republic of Indonesia Government Regulation Number 3 of 2001 [6]. Aviation infrastructure, including BTT and other GSE equipment, is an important part of efforts to improve aviation safety. According to research by the National Transportation Safety Committee (KNKT), around 60% of aviation accidents in Indonesia are caused by human factors. Therefore, the use of GSE equipment that complies with regulations and the latest technology is very important to minimize the risk of accidents at airports.

With the increasing number of passengers and flights at Djalaluddin Gorontalo Airport, as well as the importance of compliance with regulations, a thorough evaluation of BTT needs is needed to ensure safe and efficient airport operations. This evaluation is also important for planning the development and procurement of new equipment that meets current and future operational needs. Therefore, this research aims to evaluate the need for BTT for ground handling operations at Djalaluddin Gorontalo Airport, with the hope of making a significant contribution to the planning and procurement of facilities at the airport.

Based on the background description, a problem formulation for this final project can be drawn, namely:

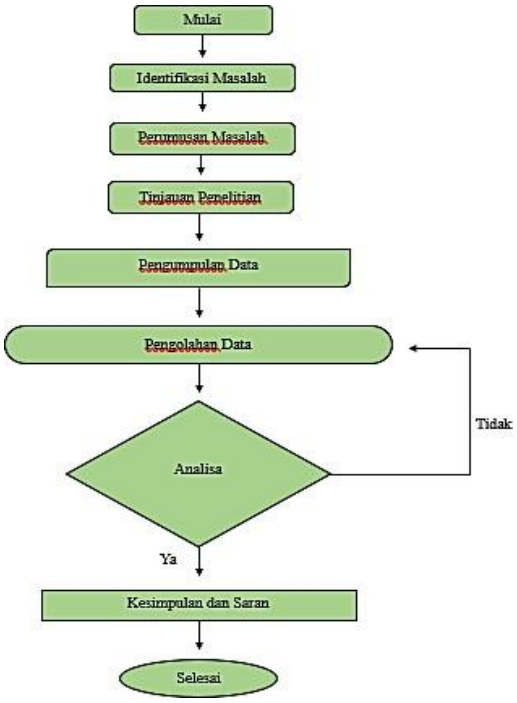
1. What is the need for a Baggage Towing Tractor (BTT) to support ground handling operations at Djalaluddin Gorontalo Airport?
2. How is the Standard Operating Procedure (SOP) for Baggage Towing Tractor implemented by ground handling personnel at Djalaluddin Gorontalo Airport in servicing aircraft?

2. METHODS

According to [7] research methods are a way or way to find solutions to all problems posed. Based on the description above, the author will use a qualitative descriptive method. According [8] qualitative descriptive is a strategy that describes data systematically, factually and accurately. The data obtained will later be collected and processed directly in the form of descriptions or depictions of events that occurred at that time.

2.1 Research Design

In general, work on this final project was carried out using work steps as shown in the flowchart image below:



2.2 Research Object

The object studied in this research is the Class 1 Djalaluddin Gorontalo Airport Baggage Towing Tractor. In carrying out this research, evaluation and observation of existing needs for Baggage Towing Tractors regarding operations carried out by ground handling personnel were carried out.

2.3 Data Collection Techniques and Research Instruments

According to [9] that data collection techniques are the most strategic research step because the main aim of research is to obtain data. The data collection method used has the aim of facilitating data collection regarding the evaluation of Baggage Towing Tractor needs for Ground Handling operations at Djalaluddin Gorontalo Class I Airport. So the following method is used:

2.3.1 Observation

according to [10] states that observation is a complex process, a process that is composed of various biological and psychological processes. Two of the most important are the processes of observation and memory. This is also in line with what the following figures said.

stated that observation [11] is a daily human activity using the five senses as the main tool. In this research, researchers made observations at Djalaluddin Gorontalo Class I Airport in the Alpha apron and Bravo apron areas when carrying out On The Job Training (OJT) activities from December to February. Observations were carried out 6 (six) times while the author carried out On the Job Training (OJT) activities.

2.3.2 Literature Review

According from[12] literature study is a data collection technique by conducting a study of book reviews, literature, notes and reports that are related to problem solving. For researchers, this is an important step when the topic of the research being undertaken has been determined. Meanwhile, according[13] research requires preparing the tools used, preparing a working bibliography, organizing time and reading or recording research materials. Furthermore, to strengthen this explanation, researchers will look for sources of information through magazines, literature, books, research results and other sources that are deemed appropriate.

2.3.3 Interview

Sees interviews as professional conversations between two parties where knowledge will be constructed through the interaction of the interviewer and respondent[14]. This second approach requires a touch of interpretation and the data is not presented as is. Interviews are conducted assuming that each person has the ability to have an opinion. Interviews are not just about sharing information and answers. But also about strategies, functions and methods among the main research.

The type of interview that researchers use is a structured interview, where this type of interview is carried out to find hypothetical answers with tightly structured questions. Structured interviews have the advantage of not carrying out in-depth questions which could allow lying to the informant being interviewed[15]. The data source obtained by the author is a primary data source where this data source contains main data obtained directly in the field such as field observations and sources as informants.

The interview procedure used was to determine the interview sample. The sampling technique used is internal sampling because it is considered that this sample can provide data for the purposes of representing the information. In certain contexts [16], a small number of informants can provide more complete and accurate information than a larger number of informants who do not know and understand the actual information being extracted.

This is in accordance with the internal character of qualitative research sampling and leads to the possibility of theoretical generalization.

In this research, the author conducted interviews with the Head of the Apron Movement Control (AMC) Unit and other Apron Movement Control (AMC) personnel to obtain field data and existing problems. Researchers conducted interviews as material for processing data related to evaluating the needs of Baggage Towing Tractors operated at Djalaluddin Gorontalo Class I Airport which were directly supervised by Apron Movement Control (AMC) personnel. Interviews conducted by researchers were used to obtain some data to evaluate needs in the field. Such as data on the number of passengers and the number of goods or cargo at each departure and arrival of aircraft related to the operation of the Baggage Towing Tractor on the air side.

2.3.4 Documentation

Documentation is a method used to obtain data and information in the form of books, archives, documents, written numbers and images in the form of reports and information that can support research [17]. The researcher carried out several documentation related to observations in the field and analyzed various supporting data in the field to support the data needs used in the research.

2.4 Research Instrument

A research instrument is a tool used to observe natural and social phenomena. Specifically, all of these phenomena are called research variables. The instruments that will be used in this research are data collection instruments from sources as informants as well as field events or phenomena which are analyzed and structured through observation guidelines, interview guidelines, etc., which can also be used with a limited function as research support.

2.5 Data Analysis Techniques

Qualitative data analysis is the process of systematically searching and compiling data obtained from interviews, field notes and other materials so that they can be easily understood and the findings can be informed to others. In qualitative research, the preparation and process are obtained through interviews, notes and materials obtained so that they can be understood and informed. In this research, the author collects and compiles information through observations, interviews and case studies, making it easier for the author to analyze the research data obtained.

Activities in qualitative data analysis are carried out interactively and continue continuously until completion, so that the data is saturated. Activities in data analysis are data reduction, data display, and conclusion drawing/verification[18].

3. RESULTS AND DISCUSSION

Observations were carried out by the author at Djalaluddin Gorontalo Airport starting from 11 December 2023 to 29 February 2024. Researchers carried out field observations related to Baggage Towing Tractor (BTT) operations at Djalaluddin Gorontalo Airport. Observations carried out on Tuesday, 16 December 2023 at 08:00 to 10:00 WITA, found that there were only two BTTs operated at Djalaluddin Gorontalo Airport which were also operated by two ground handling parties, namely PT. Arkana Dirga Indonesia and PT. Langgang Buana Perkasa. The small amount of BTT used is in line with the vehicle production period which has passed the limit period in accordance with established regulations. The Baggage Towing Tractor was produced in 2009 and 2011. So the limited BTT and non-compliance with the implementation of existing regulations could potentially threaten aviation safety and security.

One of the pieces of information obtained by the author was through interviews with personnel from the Apron Movement Control (AMC) unit at Djalaluddin Gorontalo Airport who act as supervisors and have full responsibility and authority for ground handling operations on the apron. From interviews obtained from sources, it was said that the BTT used to serve flight operations had been used since 2012 when airport services were still on the old apron or Alpha apron. And both are also operated by 2 (two) ground handling parties, each of which has currently been operating for approximately 12 years.

The solution to the proposed problem includes replacing the old BTT unit with a new unit that complies with regulations, considering that the

existing BTT has passed the maximum operational age limit of 10 years. The new BTT with appropriate specifications is expected to increase operational efficiency and safety. Apart from that, additional BTT units are needed to ensure smooth service, especially in *clash handling* situations, where two planes arrive simultaneously on different aprons. Based on calculations of the amount of baggage and cargo in 2023, at least three BTT units and one spare unit are needed to ensure services can be carried out quickly and in accordance with the airline's ground time deadline.

4. CONCLUSION

The conclusion that the author can convey is:

1. The need for Baggage Towing Tractors to support ground handling operations at Djalaluddin Gorontalo Airport is very important to support the smooth and safe operation of aircraft while they are airside. The use of units that exceed the maximum usage age limit of 10 years in accordance with the Minister of Transportation Regulations in PM 91 of 2016 is a finding that must be immediately adjusted to existing regulations. The number of Baggage Towing Tractor units also needs to be increased so that ground handling officers do not push or pull baggage carts manually. Apart from that, the need for additional units is also intended so that there is a backup unit that can back up other units that are currently operating and suddenly experience damage. In accordance with the calculations that the author carried out in Chapter 4 (four), by looking at flight activity at Djalaluddin Gorontalo Airport, including looking at the number of passenger baggage and cargo for departures and arrivals, it was found that the need in 2023 is 3 (three) units with a spare unit as a backup. other units. Meanwhile, in 2023, conditions in the field will only have 1 (one) operating Baggage Towing Tractor unit without a spare unit.

2. There was a finding that baggage carts that were operated manually by being pushed and pulled were fully loaded, this was not in accordance with the ground handling party's own SOP. The SOP issued by the ground handling party refers to the applicable regulations. However, several findings were found when the author was conducting field observations and interviews with AMC officers that there were several ground handling personnel operations that were not in accordance with the SOP itself and were not in accordance with related regulations, such as the use of Baggage Towing Tractor units that exceeded the maximum usage age limit on the side. air (airside).

Checks and supervision related to Baggage Towing Tractor operations must always be improved and adjusted to applicable regulations by Djalaluddin Gorontalo Airport. Such as the use of a Baggage Towing Tractor that exceeds the operational age limit on the air side in accordance with the Regulation of the Minister of Transportation in PM 91 of 2016. The use and operation of the Baggage Towing Tractor must of course be adjusted to existing needs. The use design that has been regulated in the regulations is designed to provide a feeling of comfort and safety for aircraft services while they are on the ground. Supervision and evaluation are important because they play a role in improving the performance of aircraft services at Djalaluddin Gorontalo Airport to create safe, secure and comfortable flights.

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