THE INFLUENCE OF APRON MOVEMENT CONTROL (AMC) PERSONNEL PERFORMANCE ON APRON SUPERVISION AT HANG NADIM BATAM INTERNATIONAL AIRPORT

Haris Kristanto[1*] , Dewi Ratna Sari[2], Meita Maharani Sukma[3]

[1,2,3)]*Politeknik Penerbangan Surabaya, Surabaya, Indonesia*
[*]*Corresponding author. Email: kristantoharis2015@gmail.com*

ABSTRACT
Currently, there are still ground handling personnel and vehicles that carry out their duties not in accordance with applicable regulations. So it is necessary to have supervision carried out by Apron Movement Control (AMC) personnel. This is in accordance with the regulations, namely the 2020 AMC SOP and KP 326 of 2019. The method used in this research is descriptive qualitative. The results showed that the supervision carried out by Apron MovementControl (AMC) personnel was in accordance with the procedure, but violations were still found from personnel and ground handling vehicles. In addition, there are facilities and personnel constraints so that the performance of Apron Movement Control (AMC) personnel becomes less than optimal.

Keyword: *Supervision, Apron Movement Control personil, Ground Support Equipment, Hang Nadim International Airport Batam.*

1. INTRODUCTION

Batam's Hang Nadim International Airport is located in Batu Besar village, Nongsa subdistrict, Batam city, Riau Islands province. As one of the hub airports and the largest in western Indonesia, this airport has a runway length of 4,025 meters and a width of 45 meters, with an apron area of 149,423.65 square meters. There are 23 parking stands consisting of AE1 to AE12, AD1 to AD8, AR1 to AR3, and 2 apron helipads with a total area of 2,882.50 square meters. At least 10 airlines operate at Hang Nadim International Airport, including Batik Air, Citilink, Garuda Indonesia, Lion Air, Wings Air, Super Air Jet, Nam Air, Sriwijaya Air, Malindo Air, and Susi Air. According to data from the AMC traffic dashboard, in 2023, there was an average of 2,500 flights eachmonth. This means that on average, there are 86 regular flights per day, both domestic and international. These activities can increase with the addition of charter flights, non-scheduled flights, and diverted flights to Batam dueto bad weather in other regions.

As the unit overseeing airside movements, Apron Movement Control (AMC) has duties and functions outlined in the Director General of Civil Aviation Regulation Number KP 326 of 2019, dated December 12, 2019, regarding the Technical and Operational Standards of Civil Aviation Safety Regulations – Part 139 (Manual Of Standard CASR – 139) Volume I Aerodrome. The regulation details that the duties of personnel include supervising, managing, regulating, and analyzing all activities on the apron. Currently, there are 20 Apron Movement Control (AMC) personnel on duty at Hang Nadim International Airport. In their division of tasks, 5 personnel serve as administrators, and 15 others work in operations. The personnel are divided into three shifts: morning, afternoon, and night. Each shift consists of 4 personnel with specific tasks, including 1 person managing and inputting data via the Inalix website in the form of Aircraft Turnaround View (ATV), 1 person operating the garbarata, 1 person inspecting the apron and service road areas, and 1 person supervising airside activities. The night shift consists of 2 personnel responsible for finalizing data and conducting night inspections to ensure airside facilities are ready for the next flights.

As a unit responsible for supervision, one of the primary focuses of AMC personnel is monitoring the movement of vehicles and ground handling personnel on the airside, particularly on the apron. Therefore, monitoring is carried out not only by direct inspection but also through Closed Circuit Television (CCTV). The AMC office is equipped with 16 CCTV cameras aimed at the apron. Of the 16 cameras, only 7 can monitor the apron area, covering parking stands AD1, AD2, AE1, AE2, AE3, AE4, and AE6. This means other areas, including parking stands AE5, AE7 to AE12, AD9, and the helipad area, cannot be fully monitored. According to the Director General of Civil Aviation Regulation No KP 038 of 2017 on Apron Management Service, Article 6 paragraph 1, the AMC unit office must be equipped with adequate facilities, including Closed Circuit Television (CCTV).

The supervision carried out by AMC personnel aims to improve the discipline of service users on the airside[1]. Currently, the discipline and compliance monitoring needs to be further optimized. Based on the AMC Personnel SOP at Hang Nadim International Airport for 2020, there are still violations found on the airside, such as GSE drivers not meeting driving requirements, personnel with expired driving permits, and personnel not using complete safety equipment. Additionally, AMC personnel are also responsible for operating the garbarata, which makes it difficult for them to optimize the supervision of personnel and vehicles.

On January 29, 2024, a violation was found where a marshaller was wearing rubber slip-on shoes instead of safety shoes. This violates the SOP established by AMC, as safety shoes are meant to protect feet from impacts, sharp objects, hot or cold liquids, fumes, extreme temperatures, hazardous chemicals, and slip hazards. Furthermore, on January 26 and 27, 2024, during random checks conducted by the author with AMC personnel, it was found that a vehicle with Platform number 42, owned by Lion Group, had a PAS that had expired since December 2023[2].

In line with Law No. 1 of 2009 on Aviation, Article 312 paragraph (3) on Aviation Supervision states that "The implementation of supervision as referred to in paragraph (2) is carried out by a working unit or a public service providing agency."[3] With stakeholders on the airside requiring supervision by Apron Movement Control (AMC), professional performance and supervision are necessary to ensure safety and reduce risks that could endanger activities on the airside.[4]

The research problem addressed in this study relates to the performance and impact of supervision conducted by Apron Movement Control (AMC) personnel at Hang Nadim International Airport. The first objective of this research is to understand how AMC personnel perform in supervising ground handling activities on the apron. This supervision is crucial to ensure compliance with applicable rules and procedures, thereby ensuring operational safety and security on the apron. Secondly, this study seeks to evaluate the extent to which the supervision carried out by AMC personnel affects the overall management and control of the apron. Effective supervision is expected to minimize risks and enhance discipline among service users on the airside, ultimately contributing to aviation safety.

2. METHODS

2.1 Research Method

The research method is a way used to obtain data with specific purposes and intentions. This is based on the characteristics of science such as being rational, empirical, and systematic[5].

In this study, a qualitative method is used. The qualitative method involves examining the object in its natural condition, where the researcher acts as an instrument, data collection is conducted through triangulation, analysis is based on inductive reasoning, and the results are general in nature. In using descriptive qualitative research, the data provided is accurately described, illustrating the process and presenting basic information about a relationship. Additionally, the data presented can be well narrated by the author[6]. Thus, the implementation of the research is based on the facts obtained during the researcher's fieldwork[7].

2.2 Research Subjects and Objects

Research subjects and objects play an important role in a study. The subjects and objects of research play crucial roles in a study. The research subjects are the informants who contribute to the study by providing essential information. In this research, the subjects are four personnel from Apron Movement Control (AMC) at Hang Nadim International Airport, Batam. There are Mr. Agam Yudha Kusuma as the team leader, Mr. Guntur Rahmat Hidayat Lumban Tobin, Mr. Dewandha, and Mr. Fandy Pradika as personnel. On the other hand, the research object is the scientific target aimed at obtaining data that is valid, objective, and reliable for the study.[8]

2.3 Data Collection Techniques & Research Instruments

In this research, the data collection technique used aims to facilitate the process of collecting information about the supervision of Apron Movement Control (AMC) personnel on activities at the Hang Nadim Batam International Airport apron. The methods used include observation, literature study, interview, and documentation.

Observation is an activity based on field facts and text at the time of research. In this study, observations were

made at Hang Nadim International Airport Batam, specifically related to the supervision of AMC personnel in the apron area during the author's On The Job Training (OJT) activities from December to February[9].

Literature study, based on studies and references that have links to the culture, values, norms that exist in the implementation of research. The data obtained can be in the form of books, articles, previous research In this study, the sources used as guidelines include various regulations and standards, such as KP 326 of 2019, PM 167 of 2015, and SOP AMC Hang Nadim International Airport Batam 2020.

Interviews, according to Suroso (2017), are one of the most widely used tools for collecting qualitative research data. In this study, interviews were conducted in an unstructured manner, starting with general questions regarding the AMC work environment and continuing with more specific questions about the effectiveness of AMC performance in apron-side surveillance. Documentation, used as a secondary data source, was obtained as material that could later help the object of research[10].

A research instrument is a tool that acts as a step used to explore a study so as to get the data needed[11]. The instruments used in this study are descriptive qualitative data collection instruments, including observation and interview guides. The observation guide is used as supplementary data from the interviews conducted, with a focus on the apron area at Hang Nadim International Airport. The interview guide is prepared in advance with a structured list of questions, which is used to obtain information about the problems and solutions related to supervision in the apron area.

2.5 Data Analysis Techniques

Data analysis is a systematic process for searching and compiling data obtained from interviews, observations, and other materials so that it is easy to understand and can be informed to others[12].

The approach taken in data analysis involves two stages: pre-field analysis and field analysis. In the pre-field analysis stage, data is analyzed to determine the research focus and to prepare the research proposal. This is done to identify the required data, its sources, and its characteristics. This analysis is temporary and will be further developed when the author collects data directly in the field. During fieldwork, data analysis is conducted continuously during the data collection period. When conducting interviews, the researcher immediately analyzes the informants' answers. If the results are insufficient, the researcher will ask additional questions to obtain more credible data. According to Miles and Huberman (1984), there are three steps in field data analysis in qualitative research: data reduction, data presentation, and drawing conclusions[13].

Data reduction involves selecting, categorizing, summarizing, simplifying, and choosing relevant data to produce information that is useful for the research[14]. In this study, data reduction includes the results of observations and interviews regarding the supervision by Apron Movement Control (AMC) personnel at the apron of Hang Nadim International Airport.

Data presentation is the process of displaying the collected data, such as the results of observations, interviews, and documentation, in a narrative form that is validated based on continuous data collection[15]. The author presents the research findings at Hang Nadim International Airport, including the identified issues and supporting data.

Drawing conclusions is the final stage that provides a comprehensive description of the research object. Conclusions are drawn based on the information obtained from observations, interviews, and documentation. At this stage, the author looks for similarities, relationships, and differences in the data to draw conclusions that address the research problem.

2.4 Research Location and Time

This final project research was conducted at Hang Nadim International Airport in Batam. The research period began when the author undertook On the Job Training at Hang Nadim International Airport, which lasted from December 2023 to August 2024, and continued until the author returned to campus to complete the research.

3. RESULTS AND DISCUSSION

3.1 Observation

Based on the observations conducted by the author at Hang Nadim International Airport in Batam from December 11, 2023, to February 29, 2024, it was found that the Apron Movement Control (AMC) unit is divided into several areas of work, such as managing parking plots, garbarata services, and apron supervision. According to the SOP of Hang Nadim International Airport AMC in 2020, supervision includes airside cleanliness, engine run-ups, fuel refueling, as well as monitoring vehicles and ground handling personnel on the airside.

Currently, the supervision conducted by AMC personnel is carried out in two ways: direct supervision in the form of patrols and random checks, as well as monitoring via CCTV. This supervision is conducted during every morning and afternoon shift. During the observation, the author identified several challenges faced by personnel, including support facilities that do not function optimally, such as CCTV at several parking stands from AE6 to AE12 that are not operational, hindering supervision in those areas. This issue makes it

difficult for personnel to monitor the movement of ground handling and aircraft, resulting in suboptimal surveillance in those areas.

Additionally, the number of AMC personnel on duty during each shift is considered insufficient. Of the four personnel on duty, one is assigned to monitor data in the office, while the other three are responsible for service and supervision in the field. This number is deemed inadequate to support the existing workload. Furthermore, there are issues related to personnel licensing completeness. Of the 20 personnel, only five hold garbarata licenses, seven have marshaller licenses, and the rest possess AMC licenses or combined licenses. This situation can cause difficulties for personnel when specific situations arise that require work according to the licenses they hold.

During field observations, the author also discovered several violations that went unnoticed by AMC personnel. For example, a BTT vehicle was carrying more than the allowed capacity on January 12, 2024, an ATT vehicle was used for luggage towing inappropriately on February 17, 2024, and a vehicle overtook another vehicle moving in the same direction on February 24, 2024, all of which violated SOPs and applicable regulations.

There were other incidents, such as a marshaller wearing rubber slippers while on duty, officials being picked up without wearing PPE or visitor passes, a vehicle left running and blocking the makeup area, and the use of expired vehicle and airport passes. These issues indicate that despite regular supervision, there are still areas that need improvement to ensure compliance with established SOPs and regulations. As the authority responsible for overseeing and ensuring safety on the airside, AMC personnel are responsible for ensuring that all rules are properly enforced. [16]

3.2 Interviews

In conducting this research, the author involved four Apron Movement Control (AMC) personnel as informants, namely Mr. Agam Yudha Kusuma, Mr. Guntur Rahmat Hidayat Lumban Tobin, Mr. Dewandha, and Mr. Fandy Pradika. Interviews were conducted directly during the On The Job Training (OJT), and from these interviews, two main topics were discussed: the performance of AMC personnel in supervising ground handling at the apron and the impact of supervision carried out by AMC personnel at the apron.

Based on the interviews, several key points can be summarized. First, the primary purpose of the work performed by AMC personnel is to ensure supervision at the apron to prevent undesirable events, such as FOD (Foreign Object Debris), ground handling issues, vehicle speed, and passenger safety. Supervision is conducted in two ways: directly through patrols and random checks, and by monitoring via CCTV. The informants emphasized that supervision covers the entire apron area, from AE1 to AE12, focusing on the safety and security of aircraft, cargo, and personnel.

Although the supervision has been running fairly well, there are several challenges, such as an insufficient number of personnel and some support facilities that are not optimal, such as CCTV and bicycles that are often broken. The informants also mentioned that other challenges include the lack of awareness from ground handling personnel regarding the existing rules and the limited number of personnel, which affects the effectiveness of supervision, especially during increased flight activity.

Regarding rule enforcement, AMC personnel have implemented a gradual sanction system, starting with verbal warnings and leading to the withdrawal of airport passes. However, despite efforts to enforce the rules, violations still occur, often due to human error. To improve the effectiveness of supervision, the informants suggested increasing personnel and improving facilities such as CCTV and bicycles.

Overall, the interviews revealed that although supervision has been conducted well, there is still room for improvement in terms of personnel numbers, support facilities, and awareness of the rules to ensure more optimal supervision at the apron of Hang Nadim International Airport in Batam.

3.3 Literature Review

Based on the literature review conducted by the author during the research, which included regulations and standards, there are several guidelines that serve as the foundation for the research. This study refers to KP 326 of 2019 on Technical and Operational Standards of Civil Aviation Safety Regulations. These regulations serve as the author's guide in assessing the performance and impact of Apron Movement Control (AMC) personnel in supervising the apron at Hang Nadim International Airport in Batam.

For personnel and ground handling vehicles operating on the airside, there are regulations that govern how all activities should be carried out. The SOP of Hang Nadim International Airport AMC in 2020 outlines the responsibilities of AMC personnel in supervising ground handling personnel and vehicles. This is also regulated in the PM 167 of 2015, Article 30, which states that permanent airport passes are granted to operational vehicles. Furthermore, SKEP 140 of 1999, Articles 9 and 28, specify the driving licenses required for drivers and the prohibited actions for drivers on the airside.[17]

According to KP 326 of 2019, Chapter 9, Section 9.6.8, which explains the duties and functions of Apron Movement Control (AMC) personnel, several points mentioned in the regulations, such as the supervision of

traffic rules on the apron, ensuring the safety of personnel, equipment/vehicles, and aircraft movements on the apron, have been implemented. Based on the description of the regulations and standards above, it was found that Apron Movement Control (AMC) personnel have performed all duties in accordance with the rules. However, there are still challenges with CCTV facilities that are not fully operational, insufficient personnel numbers, and incomplete licenses among AMC personnel.

These challenges faced by personnel have resulted in suboptimal supervision. Based on the information obtained in the field, violations by personnel and ground handling vehicle movements that do not comply with the applicable regulations, namely SKEP 140 of 1999 and PM 167 of 2015, are still being detected. The findings from the literature review explain that there is still a lack of awareness among personnel in adhering to the rules. As a result, violations continue to occur even though patrols and random checks conducted by Apron Movement Control (AMC) personnel are ongoing.

3.4 Data Analysis

In qualitative research, certain approaches are used to collect and analyze data, one of which is triangulation to ensure data accuracy and reduce bias in the analysis. In this research, triangulation was conducted through several methods, including source triangulation and method triangulation.

Source triangulation is used to test the credibility of the data by cross-checking the information obtained from various informants[18]. In this research, the informants were Apron Movement Control (AMC) personnel at Hang Nadim International Airport in Batam. Based on the interviews, it was found that the primary purpose of AMC personnel's work is to supervise vehicles and personnel on the airside and provide other services at the apron. The focus of supervision includes inspecting the apron and coordinating with ground handling to ensure everything runs according to the rules. Although supervision has been fairly optimal, challenges such as a lack of personnel and support facilities like CCTV remain. The basic rules used by personnel are the SOP of AMC in 2020, and the actions taken include logging incidents, issuing verbal warnings, and imposing sanctions. Efforts to reduce violations include routine inspections and safety campaigns. Although the sanctions imposed have been effective, some violations still occur, primarily due to human error and insufficient personnel in the field.

Method triangulation involves the use of interviews, observations, and literature reviews to reassess the issues raised. The results of the interviews indicate that the performance of AMC personnel is in line with the SOP, but challenges such as a lack of personnel and non-optimal facilities persist. Observations confirm that personnel face difficulties in conducting supervision due to the same issues, and the literature review supports these findings by stating that personnel have performed their duties in accordance with the applicable regulations. Nonetheless, the current supervision has successfully reduced the number of violations on the airside.

Data reduction was carried out by summarizing, condensing, and reorganizing the information needed according to the research focus. The research results show that the performance of AMC personnel is suboptimal due to facility constraints and unequal licensing among personnel. Additionally, the lack of personnel makes it difficult to maximize supervision in the field. Although the frequency of violations has decreased due to strict sanctions, some violations still occur, particularly related to the movement of vehicles and ground handling personnel on the airside.

3.5 Discussion

In this research, the author seeks to understand the performance of Apron Movement Control (AMC) personnel in supervising ground handling at the apron of Hang Nadim International Airport in Batam. The study was conducted through direct observation during On the Job Training (OJT) and interviews with several AMC personnel. Based on the Apron Movement Control Manual BP Batam in 2020, the AMC unit is responsible for several key areas of work, including parking plot services, garbarata services, and apron supervision.

Supervision in the apron area is a crucial aspect of AMC personnel's duties. This supervision is conducted to ensure that apron operations and safety comply with the standards set out in the Manual of Standard, Airside Safety Manual Version 1.0, and the Operational Guidelines for Vehicles in the Airside Area Version 1.0. According to the AMC SOP, supervision includes air cleanliness, engine run-ups, fuel refueling, fuel and oil spills, and monitoring vehicles and personnel operating on the airside.

During the observation period from December 11, 2023, to February 29, 2024, the author found that although AMC personnel had carried out supervision duties according to procedures, some areas were still suboptimal. For example, some vehicles were moving in ways that did not comply with the rules, expired vehicle and personnel passes were used, and ground handling personnel were not using the required personal protective equipment (PPE). This indicates that although supervision is being conducted, its implementation in the field is not fully effective.

The main challenges faced by AMC personnel in performing their duties are the lack of support facilities that function optimally. For instance, the CCTV installed at several parking stands from AE6 to AE12 was malfunctioning and could not be used for surveillance, creating blind spots that could hinder early detection of

violations. Additionally, the bicycles used for patrols often broke down, forcing personnel to share the use of follow-me cars, which were not always available.

Interviews with AMC personnel, such as Mr. Dewandha, confirmed that the facilities currently available are not optimal in supporting their supervisory duties. The number of personnel on duty per shift is also considered inadequate, with only four personnel on duty, one of whom is assigned to monitor data in the office while the other three conduct patrols in the field. According to the personnel, ideally, additional personnel are needed in the field to ensure that the entire apron area can be effectively supervised, especially given the large area they must oversee and the high intensity of activities on the apron.

The supervision carried out by AMC personnel has indeed had a positive impact, namely a reduction in the frequency of violations that occur on the apron. However, the author's observations show that violations still occur, primarily due to negligence or lack of awareness among ground handling personnel. For example, there are still personnel who do not use PPE as required, such as a marshaller who was found wearing rubber slippers instead of safety shoes, which are mandatory when working on the airside. There was also a case of an ATT vehicle being used inappropriately, which should have been used to assist aircraft with push-back operations but was used for other purposes.

Another challenge that affects the effectiveness of supervision is the lack of responsiveness among ground handling personnel to the applicable rules. For instance, if the vehicle they are using breaks down, ground handling personnel often do not immediately seek a suitable replacement vehicle, resulting in continued use of the inappropriate vehicle to avoid operational delays. This indicates that although AMC personnel have the authority to conduct random checks and routine patrols, there are still challenges in consistently enforcing the rules in the field.

AMC personnel also have the authority to impose sanctions for violations they discover. According to the SOP of Hang Nadim International Airport AMC in 2020, sanctions range from verbal warnings to the withdrawal of airport passes and the imposition of written sanctions. In the interview, Mr. Dewandha explained that these sanctions have helped reduce violations in the field, although minor violations still occur. More serious violations, such as the use of inappropriate vehicles or PPE violations, are usually dealt with more severely, such as by punching holes in airport passes, which aims to deter violators.

Every violation discovered is recorded in a daily form by AMC personnel, which is then archived as part of the random check report. This form serves as concrete evidence of the supervisory actions taken and a basis for imposing sanctions if violations continue to recur. Proper documentation also allows for periodic evaluations to improve the effectiveness of supervision and ensure that violations continue to decrease.

Overall, although the supervision carried out by AMC personnel has positively impacted reducing violations at the apron, challenges in terms of the number of personnel, inadequate facilities, and awareness of the rules among ground handling personnel still need to be addressed. To achieve more optimal supervision, efforts must be made to improve personnel numbers, facility upgrades, and increase discipline and awareness of the rules in the apron of Hang Nadim International Airport in Batam..

4. CONCLUSION

Based on the research conducted on the aforementioned issues, the following conclusions can be drawn:

First, in carrying out their duties, the personnel of the Apron Movement Control (AMC), according to the Apron Movement Control Manual BP Batam 2020, have responsibilities as team leaders, parking plot services, garbarata services, and apron supervision at the airport. However, based on observations and interviews, it was found that the supervision conducted by the personnel is still less than optimal. This is evidenced by the persistent violations committed by ground handling personnel and vehicles on the airside. Given the high intensity of flights at Hang Nadim International Airport, AMC personnel feel that there is a need for additional personnel in the field to increase the intensity of supervision, especially concerning ground handling activities. Additionally, support facilities such as CCTV and licensing are also of concern, as they are not evenly distributed, which causes the personnel's performance to be less efficient and effective in supervising and servicing ground handling activities and aircraft on the apron.

Second, the supervision carried out by AMC personnel, such as random checks, daily patrols, and CCTV monitoring, is already in line with KP 326 of 2019 regarding the duties of AMC personnel. Moreover, the enforcement of sanctions against violators based on the AMC SOP of 2020 has successfully reduced the frequency of violations committed by personnel. However, violations are still found due to the lack of attention from personnel to the rules in the field.

Based on the research findings, several suggestions can be made, including clarifying the division of tasks within the Apron Movement Control (AMC) unit to be more structured, so that all activities during work can be accommodated. Additionally, it is necessary to create daily reports on the condition of facilities and personnel at work, so that the leadership or relevant parties can be informed of the situation and conditions, allowing for

reassessment of facility and personnel issues if they are not yet optimal.

For ground handling personnel in the field, it is recommended to schedule regular training and campaigns on the applicable rules, so that the implementation of rules in the field can align with regulations and SOPs. Moreover, the airport authority, through the Apron Movement Control (AMC) unit, may consider establishing a Level of Agreement (LoA) between the airport and the companies employing the personnel, creating a binding agreement on rules and rewards for personnel working on the airside. This would bind not only the personnel working in the field but also the companies operating at Hang Nadim International Airport in Batam..

REFERENCE

[1] P. Keselamatan *et al.*, "Peran Petugas Apron Movement Control (Amc) DalamPengawasan Keselamatan Sisi Udara Di Bandar UdaraTambolaka Sumba Barat Daya," *J. Mhs.*, vol. 5, no. 2, pp. 360–373, 2023, doi: 10.51903/jurnalmahasiswa.v5i2.

[2] Kementerian Perhubungan, "Peraturan Menteri Nomor 167 Tahun 2015 tentang Perubahan Atas Peraturan Menteri Nomor 33 Tahun 2015 Tentang Pengendalian Jalan Masuk ke Daerah Keamanan Terbatas." 2015.

[3] Presiden Republik Indonesia, *UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 1 TAHUN 2009 PENERBANGAN*. Jakarta, Indonesia, 2009.

[4] Besse Novariani Amri, "Peran Unit Apron Movement Control (Amc) Dalam Menjamin Keselamatan Penerbangan Di Bandar Udara Internasional Sultan Hasanuddin Makassar," *J. Publ. Ekon. dan Akunt.*, vol. 2, no. 3, pp. 307–317, 2022, doi: 10.51903/jupea.v2i3.367.

[5] A.Hamid, *Metode Penelitian Kualitatif dan Kuantitatif*, vol. 54, no. 8. 2005.

[6] S. Hanyfah, G. R. Fernandes, and I. Budiarso, "Penerapan Metode Kualitatif Deskriptif Untuk Aplikasi Pengolahan Data Pelanggan Pada Car Wash," *Semnas Ristek (Seminar Nas. Ris. dan Inov. Teknol.*, vol. 6, no. 1, pp. 339–344, 2022, doi: 10.30998/semnasristek.v6i1.5697.

[7] Z. Abdussamad, *Metode Penelitian Kualitatif*, I. Syakir Media Press, 2021.

[8] R. Ilham Raka Guntara, Tantri Puspita Yazid, "STRATEGI KOMUNIKASI DINAS PENGENDALIAN PENDUDUK KELUARGA BERENCANA PEMBERDAYAAN PEREMPUAN DAN PERLINDUNGAN ANAK KABUPATEN KAMPAR MENUJU KOTA LAYAK ANAK TINGKAT UTA," *Public Serv. Gov. J.*, vol. 5, no. 1, pp. 1–14, 2023, [Online]. Available: https://www.ncbi.nlm.nih.gov/books/NBK558907/

[9] H. Hasanah, "TEKNIK-TEKNIK OBSERVASI (Sebuah Alternatif Metode Pengumpulan Data Kualitatif Ilmu-ilmu Sosial)," *J. at-Taqaddum*, vol. 8, no. 1, 2016, Accessed: Mar. 07, 2024. [Online]. Available: https://journal.walisongo.ac.id/index.php/attaqaddum/article/view/1163/932

[10] Z. Yusra, R. Zulkarnain, and S. Sofino, "Pengelolaan Lkp Pada Masa Pendmik Covid-19," *J. Lifelong Learn.*, vol. 4, no. 1, pp. 15–22, 2021, doi: 10.33369/joll.4.1.15-22.

[11] M. Arifin, "Instrumen Penelitian Kualitatif, Kuantitatif, Dan Pengembangan," *Implement. Sci.*, vol. 39, no. 1, p. 1, 2014.

[12] N. Nurdewi, "Implementasi Personal Branding Smart Asn Perwujudan Bangga Melayani Di Provinsi Maluku Utara," *SENTRI J. Ris. Ilm.*, vol. 1, no. 2, pp. 297–303, 2022, doi: 10.55681/sentri.v1i2.235.

[13] S. Yunengsih and S. Syahrilfuddin, "the Analysis of Giving Rewards By the Teacher in Learning Mathematics Grade 5 Students of Sd Negeri 184 Pekanbaru," *J. PAJAR (Pendidikan dan Pengajaran)*, vol. 4, no. 4, p. 715, 2020, doi: 10.33578/pjr.v4i4.8029.

[14] A. Kusumastuti and A. M. Khoiron, "METODOLOGI PENELITIAN," 2019.

[15] A. Rijali, "Analisis Data Kualitatif," *Alhadharah J. Ilmu Dakwah*, vol. 17, no. 33, p. 81, 2019, doi: 10.18592/alhadharah.v17i33.2374.

[16] Direktorat Jenderal Perhubungan Udara, "Peraturan Direktur Jenderal Perhubungan Udara Nomor 326 Tahun 2019 Tentang Standar Teknis dan Operasional Peraturan Keselamatan Penerbangan Sipil-Bagian 139 (Manual of Standard CASR - Part 139) Volume I Bandar Udara (Aerodrome)," *Kementerian Perhubungan*, vol. I. pp. 1–64, 2019. [Online]. Available: https://drive.google.com/file/d/1Z6jflhTx0n54IpEHxY8rKEF8SCbRNont/preview

[17] DIREKTUR JENDERAL PERHUBUNGAN UDARA, "SKEP 140 TAHUN 1999 TENTANG PERSYARATAN DAN PROSEDUR PENGOPERASIAN KENDARAAN DI SISI UDARA." 1999.

[18] A. Alfansyur and Mariyani, "Seni Mengelola Data :

Penerapan Triangulasi Teknik , Sumber Dan Waktu pada Penelitian Pendidikan Sosial," *Historis*, vol. 5, no. 2, pp. 146–150, 2020.