Study Analysis of the Factors Causing Minimal Apron-Side Supervision on the Performance of Apron Movement Control (AMC) Personnel at Haluoleo Kendari Class 1 Airport

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ABSTRACT
Effective apron-side supervision is essential for maintaining operational safety and discipline at airports. This study aims to identify and analyze the factors contributing to minimal supervision of Apron Movement Control (AMC) personnel at Haluoleo Kendari Class 1 Airport. Inadequate oversight has been linked to increased operational disruptions, reduced discipline, and irregular movements of aircraft and Ground Support Equipment (GSE). The urgency of this research is driven by the need to align supervision practices with national aviation standards, particularly Regulation No. KP 038 of 2017 issued by the Directorate General of Civil Aviation.
A qualitative descriptive method was applied, involving direct observation, in-depth interviews, and documentation during an On the Job Training (OJT) program conducted from January to February 2025. Triangulation was used to validate findings, focusing on the actual conditions faced by AMC personnel in executing apron supervision. The analysis explored both structural and procedural aspects affecting oversight effectiveness.
The study identified four key challenges: the absence of Closed Circuit Television (CCTV) systems for monitoring, insufficient AMC staffing relative to apron size, weak coordination among supporting units such as ground handling, and the lack of standardized supervision procedures. These limitations hinder effective oversight and compromise safety. Recommendations include installing CCTV across the apron, increasing AMC personnel, improving inter-unit coordination, updating procedures in line with KP 038/2017, and conducting regular training and briefings to enhance apron operations.

Keywords: *Apron Supervision, AMC Personnel, Airport Operations, KP 038/2017.*

1. INTRODUCTION

Haluoleo Kendari Class 1 Airport is one of the primary aviation hubs serving aircraft and passenger movements in Southeast Sulawesi. As a critical component of airport operations, apron-side supervision plays a vital role in ensuring the smooth coordination of aircraft movements, particularly those managed by Apron Movement Control (AMC) personnel (Besse Novariani Amri, 2022). However, recent observations indicate that supervision in the apron area remains suboptimal, potentially affecting the performance and discipline of AMC personnel.

Airports function as strategic nodes in the air transportation network, facilitating the mobility of people and goods. Among the most operationally intensive zones is the apron—an area designated for aircraft parking, loading and unloading, and ground maneuvering. Due to its complexity and high activity levels, the apron requires strict supervision and coordination (Liu et al., 2023). AMC personnel are tasked with overseeing these activities, and their effectiveness depends not only on individual competence but also on the supporting surveillance systems (Amal Faradis, 2022). Insufficient supervision can lead to procedural deviations, reduced discipline, and increased operational risks (Reason et al., 1998).

At Haluoleo Airport, several key issues have been identified. First, the absence of Closed Circuit Television (CCTV) systems in AMC control rooms limits real-time monitoring capabilities, especially during peak hours and in critical zones such as parking stands 5, 6, and 7. This technological gap forces AMC personnel to rely solely on manual observation and ground crew reports, which can delay the detection of important apron activities. Second, the number of AMC personnel is insufficient relative to the apron's size and workload, resulting in uneven supervision and increased potential for procedural violations, such as improper use of personal protective equipment (PPE) or unauthorized gatherings. Third, poor coordination between AMC and ground handling units often leads to miscommunication, inefficient equipment placement, and blocked patrol routes due to improperly parked Ground Support Equipment (GSE). These issues collectively compromise operational safety and efficiency.

Despite the increasing traffic at Haluoleo Airport, systematic evaluation of apron-side supervision remains limited. Without consistent oversight, procedural compliance and rapid response to operational disruptions are difficult to achieve. Therefore, this study aims to analyze the factors contributing to minimal apron-side supervision and assess its impact on AMC personnel performance. The findings are expected to inform recommendations for improving surveillance systems, personnel allocation, and inter-unit coordination to enhance apron operations at Haluoleo Kendari Class 1 Airport.

2. METHODOLOGY

2.1. Research Design

This study employed a qualitative approach with a descriptive method, aiming to gain an in-depth understanding of the phenomenon of limited apron-side supervision and its impact on the performance of Apron Movement Control (AMC) personnel at Haluoleo Kendari Class 1 Airport. The qualitative approach was chosen to explore the meaning, processes, and social dynamics within the airport's operational environment (Moleong, 2019).

Data collection was conducted through direct observation, in-depth interviews with key informants, and documentation during the On the Job Training (OJT) period from January to February 2025. Triangulation techniques were applied to enhance data validity by combining multiple sources and methods. The study focused on identifying internal factors such as personnel competence, coordination systems, and staffing levels, as well as external factors including technological availability and operational policies that influence the effectiveness of supervision.

This research design was not intended to test hypotheses, but rather to develop a comprehensive understanding of the actual conditions of apron supervision. The research process was carried out in two main stages: planning and implementation (Nazir, 2020). The planning stage involved problem identification, formulation of objectives, and development of a theoretical framework, while the implementation stage included data collection and analysis. The overall research design is illustrated in Figure 1.

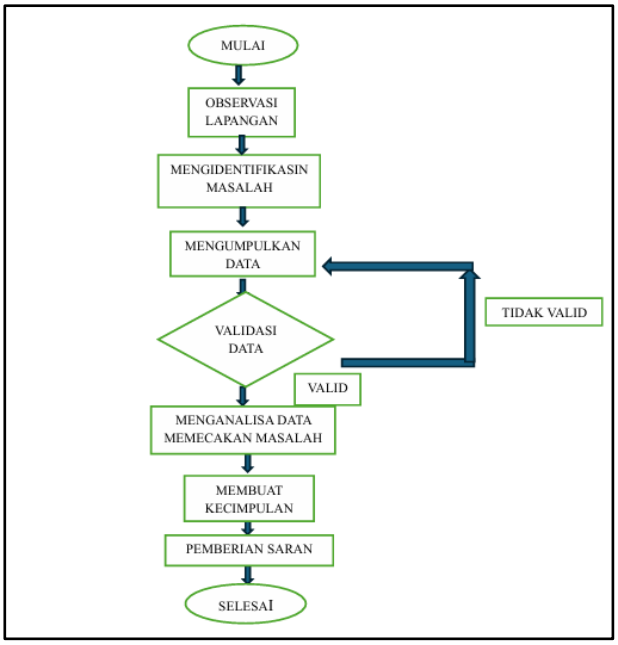

Figure 1. Research Design

2.2. Data Collection Technique

Data were collected through direct observation, in-depth interviews, and documentation, following a qualitative approach conducted in a natural setting (Sugiyono, 2019). These three methods were integrated to obtain relevant and comprehensive insights into apron supervision effectiveness and AMC personnel performance.

2.2.1. Observation

Observation was conducted directly by the researcher during the On the Job Training (OJT) program at Haluoleo Kendari Class 1 Airport, from January 6 to February 28, 2025. This technique was used to obtain natural data related to the factors contributing to limited apron-side supervision and its impact on the performance of Apron Movement Control (AMC) personnel.

The observation focused on two key indicators: (1) the availability of surveillance facilities, including monitoring tools, equipment condition, and quantity; and (2) AMC personnel performance, observed through routine inspections, coordination with ground handling

units, activity monitoring, and regular patrols across the apron area.

2.2.2. Interview

The interview method was employed to collect data through direct conversations between the researcher and informants, aiming to explore information in depth and gain a comprehensive understanding of the phenomenon from the participants' perspectives (Moleong, 2019). This study utilized a semi-structured interview approach, guided by open-ended questions to allow informants to provide broad and detailed responses (Sugiyono, 2019).

Interviews were conducted with three key informants directly involved in apron operations: the Head of the Apron Movement Control (AMC) Unit, Ms. Ayu Asmira, and two AMC personnel, Mr. Aldi and Ms. Risna. The interviews focused on several aspects, including the availability of supervision facilities, inter-unit coordination, and strategies implemented to overcome limitations in apron-side supervision.

2.2.3. Documentation

According to Fuad and Sapto (2013), documentation is a data collection technique that utilizes various forms of records such as notes, transcripts, books, journals, papers, videos, photographs, minutes, and other approved documents. These materials can serve as theoretical foundations or practical references in the research process and are processed as supporting data to strengthen the research findings.

In this study, the documentation consisted of photographs depicting conditions and activities in the apron area of Haluoleo Airport (Class 1), Southeast Sulawesi. These photographs were taken directly by the researcher during the On the Job Training (OJT) period from January 6 to February 28, 2025.

2.2.4. Triangulation

Triangulation in data collection refers to an approach that combines multiple methods and data sources to obtain more accurate and comprehensive results (Sugiyono, 2010:315). This study employed technique triangulation, which involves using several data collection methods on the same source of information.

The researcher collected data through direct field observation, in-depth interviews with Apron Movement Control (AMC) personnel, and documentation related to apron-side supervision procedures and policies. These three techniques were applied simultaneously to extract information from the same source—personnel directly involved in apron supervision activities at Haluoleo Airport.

The purpose of triangulation in this study was to enhance the validity and accuracy of the collected data and to gain a holistic understanding of the factors contributing to the limited apron-side supervision affecting AMC personnel performance. As a result, the research findings are expected to provide a more objective and in-depth portrayal of the investigated issue.

2.2.5. Instrument Validation

Instrument validation is the process of testing the feasibility of research instruments to ensure they are capable of collecting data that aligns with the research objectives (Sugiyono, 2018:272). In this study, content validity was applied, with the instruments being validated by the academic supervisor, Mr. Nyaris Prambudiyatno, S.SI.T, M.M.Tr, and the Head of the Apron Movement Control (AMC) Unit, Ms. Ayu Asmira Nasir.

Once the instruments were validated, the researcher proceeded with data collection from respondents and conducted documentation related to the identified issues.

2.3. Data Analysis Technique

This study employs a descriptive qualitative approach to analyze the collected data. This technique focuses on gathering information in the form of words or symbols through direct observation, in-depth interviews, and documentation. The data is then organized into a detailed narrative that reflects the phenomena under investigation. According to Rahmayanti et al. (2021), the descriptive qualitative approach aims to generate theory based on empirical data obtained directly from the research site.

In this study, the researcher describes the factors contributing to the lack of apron supervision and its impact on the performance of Apron Movement Control (AMC) personnel at Haluoleo Class 1 Airport, Kendari. The collected data is presented narratively to provide a clear and realistic depiction of operational conditions in the field. The analysis is expected to offer deeper insights and strategic recommendations to enhance AMC personnel performance in accordance with established procedures, thereby ensuring that apron operations run optimally and efficiently.

2.4. Research Time and Location

This research was conducted at the Apron Movement Control (AMC) unit located at Jl. Bandara Haluoleo, Ambaipua, Ranomeeto District, Konawe Selatan Regency, Southeast Sulawesi. The site was selected due to its direct relevance to the study's focus on apron supervision and personnel performance. Data collection took place during the On The Job Training (OJT) period, from January 6 to February 28, 2025. Throughout this timeframe, the researcher carried out field observations and interviews with AMC personnel to obtain

comprehensive empirical data that reflects the operational realities and challenges encountered in apron management.

3. RESULT

This section presents the findings of the study on the factors contributing to limited apron-side supervision and its impact on the performance of Apron Movement Control (AMC) personnel at Class 1 Haluoleo Airport, Kendari. Data were obtained through instrument validation, in-depth interviews, field observations, and documentation during the On the Job Training (OJT) period.

3.1. Instrument Validation Results

Validation was conducted by two parties:

- **Validator 1**: Ms. Ayu Asmira Nasir (Head of AMC Unit)
- **Validator 2**: Mr. Nyaris Prambudiyatno, S.Si.T, M.M.Tr (Academic Supervisor)

Both validators confirmed that the observation and interview instruments were appropriate and feasible for use in this research.

a. Observation Instrument Validation

Table 1. Observation Validation – Validator 1

No	Indicator	Observed Aspect	Valid	Not Valid
1	Limited Technology	Lack of monitoring facilities for apron supervision	✓	
		Inadequate performance evaluation in apron supervision	✓	
2	Lack of Standardization	Procedures not aligned with KP 38 of 2017	✓	
		Presence of blind spots in apron area	✓	
3	Inter-unit Coordination	Coordination between AMC and Ground Handling not yet optimal	✓	

Validator 1 Comment: "This observation sheet is declared valid and suitable for use in report preparation."

Table 2. Observation Validation – Validator 2

No	Indicator	Observed Aspect	Valid	Not Valid
1	Limited Technology	Lack of monitoring facilities for apron supervision	✓	
		Inadequate performance evaluation in apron supervision	✓	
2	Lack of Standardization	Procedures not aligned with KP 38 of 2017	✓	
		Presence of blind spots in apron area	✓	
3	Inter-unit Coordination	Coordination between AMC and Ground Handling not yet optimal	✓	

Validator 2 Comment: "This observation sheet is declared valid and suitable for use."

b. Interview Instrument Validation

Table 3. Interview Validation – Validator 1

Indicator	Question	Valid	Not Valid
Facility Availability	How is apron supervision conducted without monitoring facilities?	✓	
	How is communication between AMC personnel and other units during supervision?	✓	
Personnel Performance	What are the current procedures for apron-side supervision by AMC?	✓	
	What steps are taken by AMC to optimize supervision despite limited facilities?	✓	
	What future improvements are expected to enhance apron-side supervision?	✓	

Validator 1 Comment: "The interview questions are relevant and cover both technical and operational aspects."

Table 4. Interview Validation – Validator 2

Indicator	Question	Valid	Not Valid
Facility Availability	How is apron supervision conducted without monitoring facilities?	✓	
	How is communication between AMC personnel and other units during supervision?	✓	
Personnel Performance	What are the current procedures for apron-side supervision by AMC?	✓	
	What steps are taken by AMC to optimize supervision despite limited facilities?	✓	
	What future improvements are expected to enhance apron-side supervision?	✓	

Validator 2 Comment: "The interview questions are appropriate and capable of eliciting comprehensive data."

3.2. Interview Results

Interviews were conducted with three key informants:

- Ms. Ayu Asmira (Head of AMC Unit)
- Mr. Aldi (AMC Personnel)
- Ms. Risna (AMC Personnel)

Table 5. Summary of Interview Findings

Respondent	Key Findings
Ms. Ayu	Manual supervision, intensive coordination with ATC and AVSEC, need for CCTV and additional personnel
Mr. Aldi	Visual patrols, communication via HT and WhatsApp, daily evaluations, desire for digital reporting system
Ms. Risna	Rotational supervision, blind spots, strong coordination, need for CCTV and improved work discipline

3.3. Observation Results

Observations were conducted during OJT from February 12 to 28, 2025. Key findings include:

Table 6. Field Observation Results

No	Indicator	Observed Aspect	Documentation	Notes
1	Limited Technology	No CCTV installed in AMC control room		Supervision conducted manually
		Performance evaluation not optimal		Personnel count insufficient for apron coverage
2	Personnel Performance	Procedures not aligned with KP 38 of 2017		No standardized SOP
		Presence of blind spots in apron area		Buildings obstruct visual monitoring

3.4. Documentation Results

Documentation includes photographs of field conditions and activities, supporting the findings from interviews and observations.

Table 7. Documentation Summary

No	Problem Condition	Desired Condition	Reference
1	No CCTV monitoring display in AMC control room	Comprehensive visual monitoring system	ICAO Doc 9137 Part 8
2	Undisciplined personnel behavior	Routine briefings and awareness programs	ICAO Annex 14 Vol I
3	Improper GSE parking obstructing patrol routes	SOP enforcement and inter-unit coordination	ICAO Doc 9870 Ground Handling
4	Limited supervision in parking stands 5, 6, 7	CCTV installation across all parking stands	ICAO Doc 9157 Aerodrome Design

4. DISCUSSION

The findings of this study indicate that apron-side supervision at Haluoleo Kendari Class 1 Airport has not yet reached optimal effectiveness. Several key factors contribute to this condition, including limited

technological infrastructure, an insufficient number of personnel relative to apron area, the absence of standardized procedures aligned with KP 038 of 2017, and weak inter-unit coordination.

4.1. Limitations in Surveillance Technology

Observations and documentation reveal that the Apron Movement Control (AMC) room is not equipped with a Closed Circuit Television (CCTV) system. As a result, supervision relies solely on manual visual patrols, which are unable to cover the entire apron area—particularly critical zones such as parking stands 5, 6, and 7. This condition contradicts KP 038 of 2017 Article 6, which mandates that apron surveillance facilities be equipped with CCTV and other visual monitoring systems. The lack of technological support delays incident detection and reduces operational efficiency.

4.2. Imbalance Between Personnel and Operational Area

Interviews with AMC personnel indicate that the number of staff is disproportionate to the size of the apron and the intensity of operational activities. This imbalance leads to inconsistent monitoring across zones, increasing the risk of procedural violations and reduced discipline. Setyawati & Aristiyanto (2021) emphasize that the ratio of personnel to apron area is a critical determinant of supervision effectiveness.

4.3. Absence of Standardized Supervision Procedures

The supervision procedures currently implemented by AMC personnel are not fully aligned with the standards outlined in KP 038 of 2017. In practice, supervision is carried out based on individual experience and initiative, without a formalized and documented Standard Operating Procedure (SOP). This results in inconsistent task execution and potential miscommunication between operational units. Putra (2021) highlights the importance of clear and integrated procedures to maintain safety and order in apron operations.

4.4. Weak Inter-Unit Coordination

Coordination between AMC and other units—such as Ground Handling, AVSEC, and ATC—remains informal and is not supported by an integrated communication system. Incidents such as unauthorized GSE vehicle parking along patrol routes reflect a lack of shared understanding of operational SOPs. Interviews reveal that communication still relies on handheld radios and WhatsApp groups, which are not always effective during peak or emergency situations. ICAO Doc 9870 and Doc 9137 underscore the importance of integrated cross-unit communication to ensure smooth apron operations.

4.5. Implications for AMC Personnel Performance

The lack of effective supervision directly impacts the performance of AMC personnel. The absence of visual monitoring systems increases workload, leads to uneven supervision coverage, and heightens the risk of miscommunication. These factors affect aircraft parking accuracy, incident response speed, and reporting precision. Wicaksono & Dewi (2021) found that supervision effectiveness is closely correlated with AMC personnel performance in maintaining safety and operational efficiency.

AUTHORS' CONTRIBUTIONS

This section outlines the roles and responsibilities of each party involved in the research and manuscript preparation:

1. **Study Design and Conceptualization:** The author formulated the initial research idea, developed the problem statement, defined the research objectives, and designed observation and interview instruments based on KM No. 39 of 2024 and operational standards within the AMC work environment.

2. **Data Collection and Analysis:** The author conducted direct field observations in the AMC work area, carried out interviews with relevant personnel, and documented supervisory activities during the OJT period. Data were analyzed qualitatively using a descriptive approach, referring to performance indicators and aviation safety regulations.

3. **Visual Media and Workflow Diagram Development:** The author structured tables and workflow diagrams illustrating the supervision process and instrument validation, and integrated visual elements to support the interpretation of research findings.

4. **Academic Supervision and Validation:** Academic supervisors provided scientific guidance throughout the proposal development, research implementation, and report writing stages. Instrument and procedural validation were conducted collaboratively to ensure compliance with academic and operational standards.

5. **Manuscript Writing and Revision:** The author drafted all sections of the manuscript, from introduction to conclusion, and revised the content

based on feedback from academic supervisors and examiners. The English translation of the manuscript was also completed independently by the author.

6. **Final Approval:** All parties involved have reviewed and approved the final version of the manuscript for academic publication.

This study aims to contribute to the enhancement of apron-side supervision effectiveness through a structured qualitative approach grounded in regulatory frameworks. The collaboration between the author and academic supervisors served as a foundation for maintaining academic integrity and operational relevance throughout the research process.

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REFERENCES

[1] Amal Faradis. (2022). Kinerja Pengawas Pendidikan Agama Islam dalam Meningkatkan Kompetensi Profesional Guru. Journal of Educational Research, 1(1), 159–180. https://doi.org/10.56436/jer.v1i1.63

[2] Besse Novariani Amri. (2022). PERAN UNIT APRON MOVEMENT CONTROL (AMC) DALAM MENJAMIN KESELAMATAN PENERBANGAN DI BANDAR UDARA INTERNASIONAL SULTAN HASANUDDIN MAKASSAR. Jurnal Publikasi Ekonomi Dan Akuntansi, 2(3), 307–317. https://doi.org/10.51903/jupea.v2i3.367

[3] Griffin, R. W. (2021). Manajemen (Edisi ke-11). Erlangga.https://erlangga.co.id/

[4] Liu, Y., Hu, M., Yin, J., Su, J., Wang, S., & Zhao, Z. (2023). Optimization Design and Performance Evaluation of U-Shaped Area Operation Procedures in Complex Apron. Aerospace, 10(2), 161. https://doi.org/10.3390/aerospace10020161

[5] Moleong, L. J. (2019). Metodologi penelitian kualitatif (Edisi revisi). Remaja Rosdakarya. https://rosda.co.id/

[6] Nazir, M. (2020). Metode penelitian. Ghalia Indonesia.

[7] Putra, F. (2021). Pengaruh pengawasan Apron Movement Control (AMC) terhadap keselamatan penerbangan

[8] Reason, J., Parker, D., & Lawton, R. (1998). Organizational controls and safety: The varieties of rule-related behaviour. Journal of Occupational and Organizational Psychology, 71(4), 289–304. https://doi.org/10.1111/j.2044 8325.1998.tb00678.x

[9] Setyawati, A., & Aristiyanto, F. K. (2021). KAJIAN PENGAWASAN APRON OLEH APRON MOVEMENT CONTROL (AMC) DALAM MENINGKATKAN KEDISIPLINAN DI APRON PT ANGKASA PURA I (PERSERO) BANDAR UDARA ADI SOEMARMO SURAKARTA TAHUN 2019. Jurnal Transportasi, Logistik, Dan Aviasi, 1(1), 1–13. https://doi.org/10.52909/jtla.v1i1.33

[10] Sugiyono. (2010). Memahami penelitian kualitatif. Alfabeta.

[11] Sugiyono. (2018). Metode penelitian kuantitatif, kualitatif, dan R&D. Alfabeta.

[12] Sugiyono. (2019). Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif dan R&D. Alfabeta.https://alfabeta.co.id/

[13] Wicaksono, A., & Dewi, R. (2021). Efektivitas pengawasan sisi udara. Jurnal Keselamatan Transportasi, 9(3), 55–64.