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Revitalizing Incident Commander Leadership: Breakthroughs Through Weighting Methods at Airport Emergencies

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ABSTRACT

This study explores the use of a Decision Support System (DSS) to enhance Incident Commander (IC) leadership in airport emergency scenarios. Effective IC leadership is crucial in airport emergency management, requiring a diverse skill set. We investigate competencies related to command, operations, planning, logistics, administration, and customer service. Using a mixed-methods approach, we conducted a descriptive case study at Palembang Aviation Polytechnic. Primary data, including observations, interviews, and questionnaires, along with secondary data from internal documents, guided our research. Purposive sampling selected participants from faculty, Diploma Three Program trainees, and airport practitioners. Our findings highlight customer service as a leading criterion, followed by others, with logistics criteria being essential. This study contributes novel insights to airport emergency management by enhancing IC proficiency and emphasizing interconnected emergency management facets. It underscores the ethical imperative of IC leadership development, promoting safety and effectiveness in airport emergency response services.

Keywords: Decision Support System, Incident Commander, Leadership Development

A. INTRODUCTION

Airports are critical infrastructures for global mobility and connectivity. However, they can face emergencies like plane accidents, natural disasters, terrorist attacks, or other incidents that threaten flight safety and passengers. In these high-stress and complex situations, an Incident Commander plays a crucial role. They need strong leadership skills to make quick decisions, coordinate team actions, and communicate with various stakeholders (Cole & Dana, 2000; O. et al., 2022).

In any incident, regardless of its scale and complexity (Perry & Ronald W., 2003), an Incident Commander must fulfill six core responsibilities (Coleman & John F., 1997). The first five responsibilities are often referred to as the "functions" of the Incident Commander, encompassing command, operations, planning, logistics, and administration (Hannestad & Stephen E., 2005). The sixth responsibility is customer service (Brunacini & Alan V., 2002). Typically, in most incidents, an Incident Commander can execute all six responsibilities individually. The highest-ranking officer from the initial response team arriving at the incident scene will assume the role of the Incident Commander and perform all Incident Commander duties. Subsequently, the role will be handed over to higher-ranking officers arriving later, while other personnel take on different responsibilities (Jiang et al., 2004).

This aligns with the directives of the International Civil Aviation Organization (ICAO), which states that tactical decision-making begins when the alarm sounds and continues during travel and the initial approach to the incident scene. Situation assessment (what is happening/what will happen/what needs to be done) and appropriate tactics must be implemented without delay. Tactical plans for the placement of Rescue Fire Fighting (RFF) vehicles for various types of aircraft applicable at the airport must be documented, known by RFF personnel, and trained as part of the ongoing training program. As part of the situation assessment process, the Incident Commander will decide whether tactical plans need to be altered. RFF vehicles and other response vehicles must be positioned correctly for successful RFF operations. Since RFF vehicles often respond sequentially, the first RFF vehicle arriving at the accident scene often determines the route for other vehicles and can determine their final positions (International Civil Aviation Organisation, 2014).

Incident commanders are specialized firefighters with advanced competencies tailored for leading and managing emergency responses (Nasiri et al., 2019; Wijkmark et al., 2021). They play a crucial role in ensuring response effectiveness and coordination. The commitment of incident commanders stems from their advanced training and expertise, equipping them to lead complex emergency scenarios effectively. This dedication and additional competence make them pivotal figures in emergency response, safeguarding the communities they serve. Incident command and control are fundamental in managing emergency responses. It involves making frontline decisions and ensuring their proper execution by frontline workers (Mccrady et al., 2017).

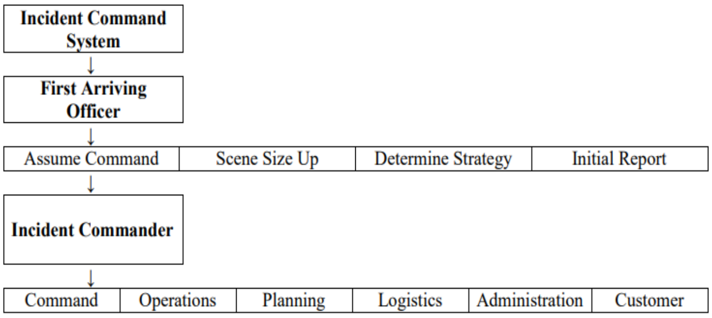

Figure 1: Responsibilities of the Incident Commander (O'Neill, 2008)

The figure above provides an overview of the Incident Commander's responsibilities in managing emergencies, underscoring the importance of their ability to perform the six core responsibilities. These responsibilities, also referred to as the Incident Commander's functions, encompass command, operations, planning, logistics, administration, and customer service. In the initial phases of an incident, the Incident Commander takes command, assesses the situation, and establishes strategies. As the incident unfolds, ongoing planning is necessary to adapt to future needs, and logistics must be coordinated to ensure essential resources are available. Additionally, the Incident Commander oversees administrative aspects, including budget considerations and documentation, although these responsibilities may be deferred until after the incident concludes. Finally, customer service is a critical responsibility for the Incident Commander, as they must make every effort to assist those affected by the incident.

To handle their responsibilities effectively, an Incident Commander must stay composed, assess situations continually, and delegate tasks when needed (Rake & Njå, 2009). They play a key role in bringing order to chaotic emergencies. Leadership development can improve an Incident Commander's ability to make sound decisions, coordinate teams, and communicate effectively (Fox, 2009). However, leadership in airport emergencies is unique, requiring a deep understanding of emergencies, quick decision-making, strong communication, team management, and knowledge of airport procedures. Education and training are crucial for an Incident Commander's competence. They must also understand airport emergencies and response procedures (Burgiel, 2020).

Implementing leadership training can be challenging due to complex materials and resources (Nasiri et al., 2019). To address this, a decision support system is needed to assist leaders in selecting the right training and candidates, reducing errors, and improving training effectiveness. In the realm of decision-making, it is imperative to acknowledge that making sound and informed decisions is not a one-time event but rather a multi-stage process. This process entails various crucial stages, each with its own set of challenges and considerations (Aminudin et al., 2018). One key component of this multifaceted process is the utilization of Decision Support Systems (DSS), which are designed to assist decision-makers at different stages, especially when dealing with complex and unstructured problems. DSS is a tool that aids decision-making by providing valuable information and analysis. It falls under the umbrella of artificial intelligence and employs various methods and technologies like data cleaning, data transformation, data analysis, and data mining. DSS finds applications in diverse domains such as education, enterprise management, and everyday business tasks (Sutriana et al., 2022; Zanakis et al., 1998). The implementation of DSS is not confined to specific domains; instead, it has broad implications across various industries and sectors. DSS is designed to assist decision-makers by offering insights, data-driven analyses, and the ability to explore alternative scenarios. It is essential to emphasize that DSS is not meant to replace human judgment but to complement it. The decision-making process comprises several key stages. The decision-making process involves several key stages. 1) Understanding Phase: which focuses on identifying and grasping the core issues. Similarly, in airport emergency management, Incident Commanders (ICs) must also understand the challenges they might encounter. This phase is akin to the initial understanding step in decision-making. For IC skill development, it is vital to analyze the intricacies of airport emergencies, much like understanding a problem's scope in decision-making. This comprehension forms the basis for defining the criteria needed for capable ICs; 2) Design Phase: Here, decision-makers explore and analyze potential solutions using models that mimic real-world conditions. This phase results in a list of alternative solutions; 3) Choice Phase: In this stage, a decision is made by selecting the most suitable alternative solution identified during the design phase. This choice leads to a plan for implementation; 4) Implementation Phase: The chosen action plan is executed. Successful implementation results in problem resolution, while failure indicates ongoing challenges. This phase generates reports on solution implementation and outcomes.

Decision Support Systems (DSS) come with certain limitations (Hahn, 214 C.E.). Firstly, they may be unable to model certain management skills and human talents, resulting in incomplete problem reflections. Additionally, DSS is constrained by the scope of its knowledge base and the basic models it relies on. Finally, the capabilities of a DSS are closely tied to its software, which means that its effectiveness is influenced by the specific tools and technologies it uses. These limitations should be considered when relying on DSS for decision-making processes.

Moreover, Multiple Attribute Decision Making (MADM) is a method used to find the optimal alternative among several alternatives with certain criteria. The essence of MADM is to determine the weight for each attribute, then proceed with the process of fixation that will solve the alternatives already given (Tzeng & Huang, 2011). This comprehensive understanding of the decision-making process, its stages, and the limitations of DSS provides a strong foundation for exploring the development of Incident Commanders' skills in airport emergency management. By drawing parallels between these stages and the requirements of ICs, it becomes possible to define the necessary criteria for effective IC training and performance in high-stress situations.

The Simple Additive Weighting (SAW) method, also referred to as a weighted linear combination or scoring technique, is a straightforward yet highly applicable multi-attribute decision-making approach (Irawan, 2020; Irawan et al., 2019; Jaberidoost et al., 2015). This method revolves around the concept of a weighted average, where an evaluation score is determined by multiplying the normalized value of each criterion for the objectives by the importance weight assigned to those criteria. Subsequently, the objectives can be ranked based on these scores, and the one with the highest score is selected as the preferred choice. SAW offers an intuitive way to handle multi-criteria decision-making scenarios across various domains, including but not limited to education, business management, and healthcare. Its simplicity makes it an attractive choice when dealing with complex decision problems where multiple attributes must be considered to arrive at an optimal decision. The process of utilizing SAW can be broken down into several key steps, as outlined below (Wulandari et al., 2018): 1) Determine Criteria (Ci): The first step involves identifying and defining the criteria that will serve as the reference points for decision-making. These criteria (Ci) are the aspects or attributes against which alternative options will be evaluated; 2) Match Rating of Alternatives: Once the criteria are established, the next step is to determine the match rating of each alternative on each criterion. This involves assessing how well each alternative performs concerning the identified criteria; 3) Criterion-Based Matrix and Normalization (R): Create a matrix based on the criteria (Ci) to organize the ratings. Following that, perform the normalization of the matrix. The normalization process typically involves adjustments based on attribute types, such as gain attributes and cost attributes. This step results in a normalized matrix denoted as R; 4) Ranking and Selection: Finally, the ranking process begins. Calculate the weighted sum of the normalized matrix (R) by multiplying it with a weight vector. The weight vector represents the importance or significance of each criterion in the decision-making process. The alternative with the highest computed value is selected as the best alternative (Ai) or optimal solution.

These steps illustrate the systematic approach employed in the SAW method to evaluate and rank alternatives based on multiple criteria. The method's flexibility and effectiveness make it a valuable tool in various decision-making scenarios, from selecting the best course of action in complex situations to choosing among different alternatives in a structured and objective manner.

Education and training are the means to improve an Incident Commander's competence and are essential components for individuals as valuable human resources (K et al., 2021). Besides leadership development, it is also crucial for an Incident Commander to possess adequate knowledge of potential emergencies at the airport, as well as the procedures and protocols to be followed in responding to these emergencies. However, there are obstacles to implementing leadership development training that can hinder its effectiveness. One challenge is the complexity of leadership materials, which may require a substantial amount of time for training. This can be problematic for an Incident Commander who cannot be away from their operational duties for an extended period. Additionally, limitations in airport human resources can also pose difficulties. Not all airport personnel may meet the qualifications to become an Incident Commander, making it challenging to find suitable candidates for training. This can result in challenges in selecting the right nominees for leadership training. The consequence of these issues may be a mismatch between the nominees chosen for training and the actual personnel who urgently need leadership training. Such mismatches can impact the effectiveness of the training and the overall performance of the organization (Lestari & Kusumah, 2022).

To overcome the challenges in implementing leadership development training, it's essential to have accurate and well-processed training data. This highlights the need for a decision support system to assist leaders in identifying the right types of leadership training and suitable candidates. The expectation is that this decision support system can minimize errors in setting training priorities and selecting appropriate individuals. As a result, the implementation of training becomes more effective and efficient, ultimately improving the overall performance of the organization. In this article, we will further explore the prioritization of Incident Commander leadership development in emergency response services at airports.

B. METHOD

In this study, we gather primary data through observations, interviews, and questionnaires, while secondary data is sourced from internal documents. To select our informants, we employ purposive sampling techniques, focusing on those who align with our research objectives. This approach is supported by previous research (Jasin & Firmansyah, 2023; Seawnght & Gerring, 2008; Teddlie & yu, 2007; Tongco, 2007). Specifically, our informants comprise faculty members from the Diploma Three Program in Aircraft Rescue and Firefighting and practitioners from the Sultan Mahmud Baddarudin II Airport in Palembang, in accordance with our research goals.

Once data is collected, we proceed with data analysis using a weighting method to measure the importance of various observed objects based on the judgments of competent respondents. This method is commonly referred to as the Simple Additive Weighting (SAW) method, a straightforward weighted sum technique frequently used in decision support systems (Asminah, 2022; R. Y. Simanullang et al., 2021; S. K. Simanullang & Simorangkir, 2021). The SAW method aims to establish performance ratings or priority scales for each alternative across all attributes to solve the problem (Ramadhan et al., 2021; R. Y. Simanullang et al., 2021; Situmeang et al., 2021).

The weighting method is conducted using the following procedure: 1) select the objects to be studied (related to the research objectives); 2) formulate assessment criteria based on the research; 3) select competent respondents; 4) each respondent is asked to assign values to pairs of compared objects (with a comparison of n(n-1)); 5) the results of respondent assessments are processed. The algorithm for processing respondents goes through stages: 1) defining criteria as benchmarks for problem solving; 2) alternative value normalization; 3) weighting; 4) ranking. These stages and procedures are summarized into a conceptual framework as shown in the following diagram:

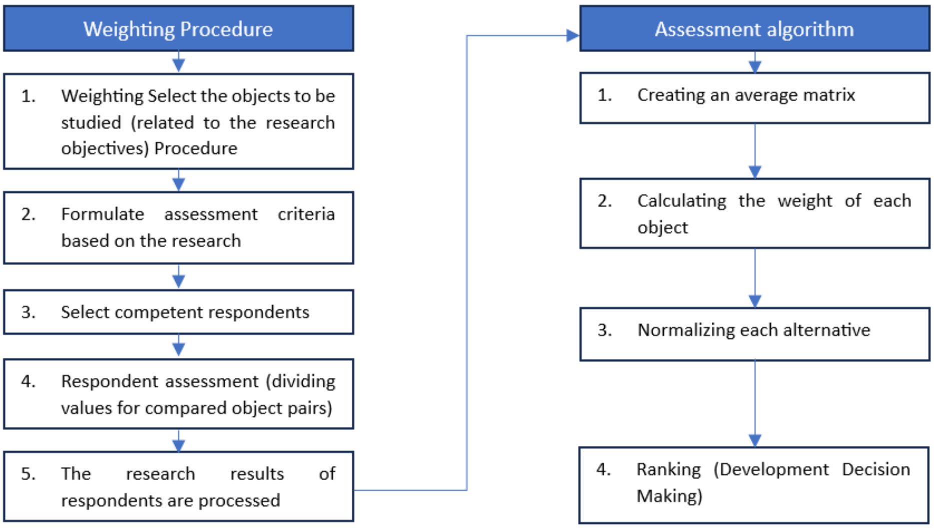

Figure 2. Conceptual Framework (developed by the researcher, 2023)

The equation used in this weighting system is as follows:

a. Compiling the Average Matrix

Summing up each aspect of respondents' opinions, then dividing by the number of respondents.

$B_{1.1}$ = 50 → the value of criteria 1 against criteria 1 (50%)

$B_{1.2} = \frac{total \text{ criteria 2 against criteria 1 for each responder}}{\text{number of responders}}$

$B_{n.1} = \frac{total \text{ criteria 2 against criteria 1 for each responder}}{\text{number of responders}}$

$B_{n.n} = \frac{total \text{ criteria n against criteria 1 for each responder}}{\text{number of responders}}$

$$\text{Matrik} = \begin{bmatrix} \text{B1.1} & \cdots & \text{B1. n} \\ \vdots & \ddots & \vdots \\ \text{Bn. 1} & \cdots & \text{Bn. n} \end{bmatrix} \qquad \ldots (1)$$

b. Calculating the weight of each object

$B_1 = \sqrt[n]{\text{B1.1 x B1.2 x B1.3 x B1. n}})$

$B_2 = \sqrt[n]{\text{B2.1 x B2.2 x B2.3 x B2. n}})$

$B_3 = \sqrt[n]{\text{B3.1 x B3.2 x B3.3 x B3. n}})$

$B_n = \sqrt[n]{\text{Bn. 1 x Bn. 2 x Bn. 3 x Bn. n}}) \qquad \ldots (2)$

Notes:

B_1 = weight value of criterion 1

B_2 = weight value of criterion 2

B_3 = weight value of criterion 3

B_n = weight value of criterion n

$B_{1.1\text{-}1.n}$ = matrix Value 1.1 to 1.n

$B_{2.1\text{-}2.n}$ = matrix Value 2.1 to 2.n

$B_{3.1\text{-}3.n}$ = matrix Value 3.1 to 3.n

$B_{n.1\text{-}n.n}$ = matrix Value n.1 to n.n

c. Normalizing each alternative (performance values)

$$\text{Performance Value of Criterion n} = \frac{\textbf{Bn}}{Total\ Weight}\ x\ 100\% \qquad \ldots (3)$$

d. Ranking (Decision on development decisions)

Decisions are made based on the highest performance value.

C. RESULT AND DISCUSSIONS

The research was conducted at the Palembang Aviation Polytechnic, located at Jl. Adi Sucipto No.001, Palembang, South Sumatra, at the Diploma Three Program in Aviation Rescue and Firefighting in Palembang and the Rescue and Firefighting Services Unit at Sultan Mahmud Baddarudin II Airport, Palembang, for approximately 3 (three) months from February to April 2023. The Decision Support System for Selecting the Development of Incident Commander Leadership Training is an analytical tool that assists leaders in determining leadership training for Incident Commanders in handling Emergency Response at the airport based on specific criteria that are competencies of an Incident Commander's duties and responsibilities.

The author used primary data obtained from interviews, observations, and literature studies. Interviews are a method or technique used to collect data by conducting direct question-and-answer sessions with subject matter experts in the field of Aviation Accident Assistance and Firefighting Services. Observation is a data collection technique carried out by systematically observing and recording. Observations were made at the Palembang Aviation Polytechnic and Sultan Mahmud Baddarudin II Airport. In the existing system, no decision analysis tools for leadership development have been found. Literature studies were conducted to gain insights into theories related to the research problem. Here are the results of the research following the research procedures.

a. Research Object

   The Decision Support System for Incident Commander Leadership Development in Emergency Response at Airports.

b. Assessment Criteria

   The assessment criteria are selected based on the competencies required for the development of an Incident Commander, which are core competencies for the duties and responsibilities of an Incident Commander in handling emergency situations at airports. These competencies include: Command (C1), Operations (C2), Planning (C3), Logistics (C4), Administration (C5), Customer Services (C6). Detailed explanations of the competencies for each criterion can be found in the following table.

Table 1. Research Criteria

Criteria	Competency
Command	Ability to lead operations during a crisis
	Ability to make precise and accurate decisions
	Effective communication skills
	Ability to consider the consequences of decisions made
Operation	Ability to identify risks and hazards
Planning	Ability to plan strategies for handling emergency situations at airports
Logistic	Ability to manage resources
Administration	Ability to evaluate available information and data
Customer services	Ability to motivate and direct team members
	Ability to facilitate cooperation among team members
	Ability to build positive working relationships with the team
	Good listening skills and providing constructive feedback

c. Assessor Respondents

The respondents consist of subject matter experts in the field of Aircraft Accident Assistance and Firefighting (ARFF) Services at the Palembang Aviation Polytechnic and Sultan Mahmud Baddaruddin II Palembang Airport. The following is the data of the assessing respondents:

Table 2. Research Respondents

Number of Respondent	Respondents
Respondent 1	Lecturer at Palembang Aviation Polytechnic
Respondent 2	Diploma Three Taruna Madya at Palembang Aviation Polytechnic
Respondent 3	*Incident Commander* ARFF SMB 2 Palembang
Respondent 4	Chairman of the AEP Committee at SMB 2 Palembang

d. Respondent Assessment Results

The obtained response results can be seen in the following table:

Table 3. Respondent Assessment Results

Criteria		R1	R2	R3	R4
Command (C1)	O (C2)	70:30	35:65	65:35	55:45
	P (C3)	65:35	40:60	55:45	60:40
	L (C4)	75:25	60:40	70:30	60:40
	A (C5)	30:70	25:75	40:60	37:63
	Cs (C6)	80:20	78:28	65:35	60:40
Operation (C2)	P (C3)	30:70	65:35	25:75	75:25
	L (C4)	60:40	55:45	65:35	53:47
	A (C5)	40:60	35:65	30:70	20:80
	Cs (C6)	30:70	25:75	45:55	35:65
Planning (C3)	L (C4)	65:35	70:30	60:40	62:38
	A (C5)	55:45	60:40	65:35	70:30
	Cs (C6)	25:75	30:70	35:65	20:80
Logistic (C4)	A (C5)	65:35	65:35	70:30	75:25
	Cs (C6)	25:75	25:75	30:70	30:70

Administration (C5)	Cs (C6)	25:75	25:75	30:70	30:70

Then an assessment was conducted to determine which factors needed further development.

Individual matrix for each respondent

To have a clearer view of the assessments from each respondent, they must be transformed into matrix form, as shown in the following table:

Table 4. Average Matrix of Responders

Average	**C**	**O**	**P**	**L**	**A**	**Cs**
C	50,00	43,75	45,00	33,75	67,00	29,25
O	56,25	50,00	51,25	41,75	68,75	66,25
P	55,00	48,75	50,00	35,75	37,50	72,50
L	66,25	58,25	64,25	50,00	31,25	72,50
A	33,00	31,25	62,50	68,75	50,00	72,50
Cs	70,75	33,75	27,50	27,50	27,50	50,00

$$X = \begin{bmatrix} 50,00 & 43,75 & 45,00 & 33,75 & 67,00 & 29,25 \\ 56,25 & 50,00 & 51,25 & 41,75 & 68,75 & 66,25 \\ 55,00 & 48,75 & 50,00 & 35,75 & 37,50 & 72,50 \\ 66,25 & 58,25 & 64,25 & 50,00 & 31,25 & 72,50 \\ 33,00 & 31,25 & 62,50 & 68,75 & 50,00 & 72,50 \\ 70,75 & 33,75 & 27,50 & 27,50 & 27,50 & 50,00 \end{bmatrix}$$

From the average matrix table, the following observations can be made:

1) C (Command) has a higher value than O (Operation, Planning, Logistic, and Customer Services). This indicates that Command is dominant compared to these other criteria, except for A (Administration). Therefore, it can be concluded that leadership development for Incident Commanders can focus on competencies related to Command (C) and Administration (A).
2) P (Planning) has a higher value than L (Logistic), A (Administration), and Cs (Customer Services). This suggests that Planning is dominant compared to these other criteria. Hence, leadership development can focus on competencies related to Planning (P).
3) O (Operation) has a higher value than P (Planning). This indicates that Operation is dominant compared to Planning. Therefore, leadership development can prioritize competencies related to Operation (O).
4) L (Logistic) has a higher value than A (Administration) and Cs (Customer Services). This suggests that Logistic is dominant compared to these other criteria. Hence, leadership development can focus on competencies related to Logistic (L).
5) A (Administration) has a lower value compared to Cs (Customer Services). This shows that Administration is less dominant than Customer Services. Therefore, leadership development can emphasize competencies related to Customer Services (Cs).

The weight values for each criterion are as follows:

Table 5. Weight Values

Criteria		Weight Values
Command (C1)	B_C	393,30
Operation (C2)	B_O	284,50
Planning (C3)	B_P	335,92
Logistic (C4)	B_L	262,69
Administration (C5)	B_A	293,52
Customer Services (C6)	B_{Cs}	438,35

The weight values indicate that the Customer Services (Cs) criterion has the highest weight. This suggests that, before normalization, the competence of Incident Commanders in serving other units within the airport emergency management is lower compared to other competencies. Therefore, it is more feasible to prioritize the development of competence in the Customer Services (Cs) criterion over the others. The performance values for each criterion after normalization are as follows:

Table 6. Matrix Normalization

Criteria		Normalization
Command (C1)	B_C	19,53%
Operation (C2)	B_O	14,13%
Planning (C3)	B_P	16,68%
Logistic (C4)	B_L	13,04%
Administration (C5)	B_A	14,58%
Customer Services (C6)	B_{Cs}	22,04%

These performance values represent the relative performance of each criterion, with Customer Services (Cs) having the highest performance value. This indicates that, even after normalization, the competence of Incident Commanders in serving other units within the airport emergency management is still lower compared to other competencies. Therefore, it is still more feasible to prioritize the development of competence in the Customer Services (Cs) criterion over the others. Based on the preference weights of each criterion, here is the ranking of the criteria's performance:

Table 7. Ranking of Criterion Performance Values

Alternative Weights	Criteria	Performance Scores	Ranking
$\mathbf{B_{Cs}}$	*Customer Services*	22,04%	Ranking 1
$\mathbf{B_C}$	*Command*	19,53%	Ranking 2
$\mathbf{B_P}$	*Planning*	16,68%	Ranking 3
$\mathbf{B_A}$	*Administration*	14,58%	Ranking 4
$\mathbf{B_O}$	*Operations*	14,13%	Ranking 5
$\mathbf{B_L}$	*Logistics*	13,04%	Ranking 6

The results indicate that Customer Services (Cs) has the highest performance value (22.04%), followed by Command (C = 19.53%, Planning (P) = 16.68%, Administration (A) = 14.58%, Operations (O) = 14.13%), and finally Logistics (L) with a performance value of 13.04%. This suggests that the competence of the Incident Commander (IC) in serving other units within the Airport Rescue and Fire Services (ARFS) is relatively low compared to other competencies. Therefore, it is more feasible to prioritize the development of Customer Services (Cs) competence over other criteria.

The research findings underline the critical role of expert involvement in the pursuit of competency quality. This study confirms the importance of expanding the scope of operations and adopting a multifaceted approach to enhance competency quality of the incident commander. The integration of technical competence, professional development, and ethical skills is pivotal in achieving the desired outcomes. Our findings align with earlier studies (Aminudin et al., 2018; Habibie et al., 2021; Kazak et al., 2017) in highlighting the significance of a dedicated approach to product quality. This commitment marks the initial step and sets the procedural stage for our discussion, aligning with the initiative to enhance the intrinsic value and expand the core components related to the specific product (Anshari et al., 2017; Huda, Sabani, et al., 2017). Additionally, our research builds upon these insights by emphasizing the need for expert involvement and a well-structured development process, which extends beyond technical competence. In the light of this commitment, it becomes imperative to engage with experts, recognizing the potential attributes that should be harnessed for the enhancement of the product's quality. This collaborative involvement with experts is akin to expanding the scope and order of operations, ultimately facilitating the development of a controlled program that aids in selecting the most appropriate form (Huda, Shahrill, et al., 2017).

From these insights, the significance of identifying specific elements becomes evident. This is a pivotal aspect of ensuring that the process of determining the quality of a particular product or service aligns with optimal performance expectations. The need to obtain an initial value of accuracy becomes paramount in managing the outcomes of a well-structured process, which resonates with previous research findings (Huda, Jasmi, et al., 2017). In the context of achieving greater accuracy in the process, the requirement to meet specific criteria comes to the forefront. These criteria become the building blocks for enhancing the potential value of delivering the appropriate aspects, thereby offering valuable insights into the selection, evaluation, and reapplication phases. This holistic approach can be effectively employed to navigate the procedural stage, aligning it more effectively with the specific means of application that cater to the unique components while considering the application context.

When we intersect these considerations with the research results, it becomes evident that a methodical commitment to improving product quality aligns with the broader goal of enhancing competency in specific domains. The research data, emphasizing the significance of Customer Services (Cs) competence within Airport Rescue and Fire Services (ARFS), underscores the importance of expert involvement and continuous professional development. Just as we seek to elevate Customer Services (Cs) competence over other criteria in ARFS, a broader commitment to enhancing product quality necessitates a strategic approach to continuously foster competence, harness potential attributes, and align with a well-structured and ethical development process. The journey towards optimal quality is, indeed, a multifaceted and collaborative endeavor, where insights into the best practices, selection criteria, and evaluation phases guide the path toward continuous improvement.

For future research, it is recommended to explore the specific attributes and characteristics that experts bring to the product quality enhancement process. Understanding how different attributes contribute to quality improvements can provide valuable insights. Practitioners are encouraged to embrace a holistic approach to product quality, integrating technical competence, professional development, and ethical considerations. Continuous improvement in these areas can lead to more effective quality enhancement processes. By incorporating these recommendations, future research can further enrich our understanding of product quality improvement, benefiting both academic and practical domains.

D. CONCLUSION

Based on the research findings, it can be concluded that the development of leadership skills for an Incident Commander is crucial in handling emergencies at the airport. The criteria for customer services have the highest performance value, while the competence of the Incident Commander in serving other units within the Airport Fire and Rescue Department is relatively low compared to other competencies. Therefore, it is more feasible to prioritize the development of customer services competence over other criteria. This study provides insights into an effective approach to achieving this goal and highlights the importance of investing in the leadership skills development of Incident Commanders.

E. RECOMMENDATIONS

Based on the research results, it is recommended to enhance the development of leadership skills for Incident Commanders in the field of customer services. Relevant authorities at Palembang Aviation Polytechnic and Sultan Mahmud Baddarudin II Palembang can develop training and skill development programs that focus on the customer services criteria. Additionally, future research could consider incorporating other variables that influence the performance of Incident Commanders in handling emergencies at the airport, such as environmental factors and human factors.

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