

NAVIGATING PERFORMANCE IN AVIATION TRAINING: THE INTERPLAY OF COMPETENCY, WORK CULTURE, AND ORGANIZATIONAL EFFICIENCY

**MENAVIGASI KINERJA DALAM PELATIHAN PENERBANGAN:
HUBUNGAN ANTARA KOMPETENSI, BUDAYA KERJA, DAN EFISIENSI
ORGANISASI**

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ABSTRACT

Employee performance is a critical determinant of organizational success, particularly in highly technical fields such as aviation training. This study investigates the impact of work environment and competency on employee performance, with work culture as a mediating variable, in the simulator division of an aviation training institution. The study aims to determine whether work culture reinforces the competency-performance relationship and whether work environment significantly affects performance. A quantitative research approach was employed, using survey data from 40 employees in the simulator division. Path analysis was conducted to assess direct and mediated relationships between the variables. The measurement instrument was validated through Cronbach's alpha reliability tests, and statistical analyses were performed using SPSS 25. Regression analysis was used to test direct effects, while Baron and Kenny's mediation model was applied to evaluate the role of work culture as a mediating variable. The findings reveal that competency has a significant positive effect on employee performance, confirming that well-trained employees exhibit higher efficiency and operational accuracy. However, work environment does not significantly influence employee performance, suggesting that structured operational procedures and competency play a more dominant role. Additionally, the study finds that work culture significantly mediates the relationship between competency and performance, highlighting its importance as a reinforcing mechanism. These results align with existing HRM literature, demonstrating that organizational culture amplifies the benefits of workforce competency. These findings have both theoretical and practical implications. Theoretically, this study extends human resource management frameworks by providing empirical evidence of the mediating role of work culture in competency-driven performance models. Practically, it offers strategic recommendations for aviation training institutions, emphasizing the integration of cultural development programs alongside competency training to optimize workforce efficiency. Future research should explore additional moderating factors such as leadership style and technological advancements to further refine workforce optimization strategies in aviation and similar structured industries.

Keywords: Employee Performance, Work Environment, Competency, Work Culture, Aviation Training, Human Resource Management.

ABSTRAK

Kinerja karyawan adalah penentu penting dari keberhasilan organisasi, terutama di bidang yang sangat teknis seperti pelatihan penerbangan. Penelitian ini menyelidiki dampak dari lingkungan kerja dan kompetensi terhadap kinerja karyawan, dengan budaya kerja sebagai variabel mediasi, pada divisi simulator di sebuah lembaga pelatihan penerbangan. Penelitian ini bertujuan untuk mengetahui apakah budaya kerja memperkuat hubungan kompetensi-kinerja dan apakah lingkungan kerja secara signifikan mempengaruhi kinerja. Pendekatan penelitian kuantitatif digunakan, dengan menggunakan data survei dari 40 karyawan di divisi simulator. Analisis jalur dilakukan untuk menilai hubungan langsung dan hubungan mediasi antar variabel. Instrumen pengukuran divalidasi melalui uji reliabilitas Cronbach's alpha, dan analisis statistik dilakukan dengan menggunakan SPSS 25. Analisis regresi digunakan untuk menguji pengaruh langsung, sementara model mediasi Baron dan Kenny diterapkan untuk mengevaluasi peran budaya kerja sebagai variabel mediasi. Temuan menunjukkan bahwa kompetensi memiliki pengaruh positif yang signifikan terhadap kinerja karyawan, yang menegaskan bahwa karyawan yang terlatih dengan baik menunjukkan efisiensi dan akurasi operasional yang lebih tinggi. Namun, lingkungan kerja tidak berpengaruh secara signifikan terhadap kinerja karyawan, yang menunjukkan bahwa prosedur operasional yang terstruktur dan kompetensi memainkan peran yang lebih dominan. Selain itu, studi ini menemukan bahwa budaya kerja

secara signifikan memediasi hubungan antara kompetensi dan kinerja, menyoroti pentingnya budaya kerja sebagai mekanisme penguat. Hasil ini sejalan dengan literatur HRM yang ada, yang menunjukkan bahwa budaya organisasi memperkuat manfaat kompetensi tenaga kerja. Temuan ini memiliki implikasi teoritis dan praktis. Secara teoritis, penelitian ini memperluas kerangka kerja manajemen sumber daya manusia dengan memberikan bukti empiris tentang peran mediasi budaya kerja dalam model kinerja berbasis kompetensi. Secara praktis, penelitian ini memberikan rekomendasi strategis bagi lembaga pelatihan penerbangan, dengan menekankan integrasi program pengembangan budaya kerja dengan pelatihan kompetensi untuk mengoptimalkan efisiensi tenaga kerja. Penelitian di masa depan harus mengeksplorasi faktor moderasi tambahan seperti gaya kepemimpinan dan kemajuan teknologi untuk lebih menyempurnakan strategi optimalisasi tenaga kerja di industri penerbangan dan industri terstruktur serupa.

Kata Kunci: Kinerja Karyawan, Lingkungan Kerja, Kompetensi, Budaya Kerja, Pelatihan Penerbangan, Manajemen Sumber Daya Manusia

INTRODUCTION

Employee performance remains a crucial determinant of organizational success, influencing productivity, efficiency, and long-term sustainability. In human resource management (HRM), various factors have been identified as critical to employee performance, including work environment, competency, and organizational culture (Apriliana & Nawangsari, 2021). These elements interact to shape employee behavior, motivation, and overall effectiveness. In aviation training institutions, particularly in simulator operations, optimizing employee performance is fundamental to ensuring high-quality training and operational standards. However, research on how these factors interplay in such a specialized setting remains limited, necessitating a focused investigation into their relationships.

The work environment significantly affects employees' psychological well-being, motivation, and productivity (Ahmad et al., 2023). A conducive work environment encompasses physical factors such as adequate lighting, noise levels, temperature, and air quality, as well as social and psychological aspects, including interpersonal relationships and managerial support (Herlinda & Suriani, 2021). Poor work environments can lead to dissatisfaction, stress, and decreased

efficiency, particularly in industries requiring high precision, such as aviation training (Ismoyo, 2023). Despite the established importance of the work environment, its direct impact on employee performance is often debated. While some studies suggest a strong correlation between workplace conditions and productivity (Saputra, 2021), others indicate that employee competencies and cultural elements may exert a stronger influence on performance outcomes (Anggraini & Budiarti, 2021).

Competency, defined as the combination of knowledge, skills, abilities, and behavioral attributes required for effective job performance, is a pivotal factor in employee success (Trisdiana et al., 2023). Employees with higher competency levels tend to demonstrate greater adaptability, efficiency, and problem-solving abilities, leading to improved performance outcomes (Syamsidar et al., 2021). In aviation training, where precision and accuracy are paramount, competency directly influences operational success and safety standards (Nofiar et al., 2021). Several studies indicate that competency significantly impacts job performance, particularly when coupled with continuous training and development programs (Frecillia & Dinarossi, 2023). However, the extent to which competency mediates the relationship

between the work environment and employee performance requires further empirical scrutiny.

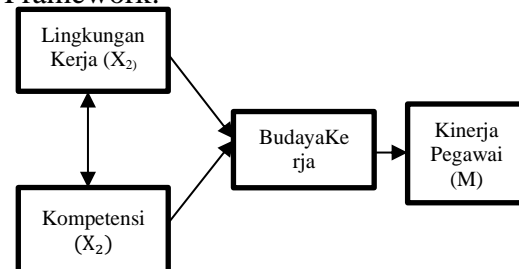
Work culture, encompassing shared values, norms, and behaviors within an organization, serves as a critical intervening factor influencing employee performance (Sukartini & Gaol, 2022). A strong work culture fosters discipline, cooperation, and engagement, which are essential for organizational efficiency (Sianturi et al., 2022). In aviation training institutions, adherence to structured work cultures ensures compliance with operational protocols, enhancing safety and training effectiveness (Saptyaningsih, 2021). Prior research suggests that work culture mediates the impact of both competency and work environment on performance, acting as a catalyst that either reinforces or diminishes these effects (Sukartini, 2022). Nevertheless, empirical studies explicitly examining the mediating role of work culture within aviation training institutions remain scarce.

Several studies have examined the relationships among work environment, competency, and employee performance across various industries. For instance, Ahmad et al. (2023) found that work environment and competency significantly impact employee performance in government institutions. Similarly, Reffi and Jhon (2023) demonstrated that workplace conditions influence job efficiency in administrative settings. However, conflicting findings exist regarding the extent to which each factor contributes to performance, suggesting the need for industry-specific research (Frecillia & Dinarossi, 2023). Studies conducted in corporate environments have underscored the role of competency in enhancing work efficiency, yet few have explicitly explored this dynamic within

the aviation training sector (Putra & Pradana, 2022).

The current study seeks to bridge this gap by investigating the impact of the work environment and competency on employee performance, with work culture as a mediating variable, in the simulator division of an aviation training academy in Indonesia. Given the highly structured and safety-critical nature of aviation training, understanding how these factors interact is essential for developing effective HR strategies and improving training quality. This study employs a quantitative approach using path analysis to examine these relationships comprehensively. By doing so, it aims to provide empirical insights that contribute to HRM literature while offering practical recommendations for aviation training institutions seeking to optimize employee performance.

The following is the Conceptual Framework:



RESEARCH METHODS

This study employs a quantitative research design to examine the relationships between work environment, competency, work culture, and employee performance in the simulator division of an aviation training institution. A survey-based approach was utilized, collecting primary data from 40 employees working in the simulator division through structured questionnaires. The study applies path analysis, a statistical technique used to examine causal relationships among multiple variables (Ali et al., 2022). The dependent variable in this study is

employee performance, while work environment and competency serve as independent variables, with work culture acting as a mediating variable. The questionnaire items were developed based on previous validated scales from HRM and organizational behavior literature (Sukartini & Gaol, 2022). Responses were measured using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), ensuring a standardized assessment of participants' perceptions. To ensure the reliability and validity of the measurement instrument, a Cronbach's alpha test was conducted, where a threshold of 0.70 or higher was considered acceptable (Ardiansyah et al., 2023). The dataset was analyzed using IBM SPSS 25, employing classical assumption tests, multiple regression analysis, and mediation testing through Baron and Kenny's (1986) approach to confirm the indirect effect of work culture on employee performance.

The study follows a rigorous data analysis procedure to ensure the robustness of findings. Descriptive statistics were used to summarize the demographic profiles of respondents and provide insights into their perceptions of the study variables. Classical assumption tests, including multicollinearity and heteroskedasticity tests, were conducted to confirm the validity of regression analysis (Putri & Suhartono, 2023). Path analysis was employed to examine the direct and indirect effects of work environment and competency on employee performance through the mediating role of work culture. The statistical significance of relationships among variables was determined using p-values of ≤ 0.05 , and effect sizes were analyzed to assess the strength of associations (Reffi & Jhon, 2023). Ethical considerations were maintained throughout the study, ensuring informed

consent from participants and guaranteeing confidentiality of responses in line with ethical research standards (Ali et al., 2022). By utilizing a structured methodological approach, this study aims to provide empirical evidence on how organizational factors influence employee performance, particularly in aviation training institutions where competency and operational efficiency are critical.

RESULTS AND DISCUSSIONS

The results of this study provide empirical insights into the relationships between work environment, competency, work culture, and employee performance in the simulator division of an aviation training institution. The findings are presented in a structured manner, beginning with descriptive statistics, followed by validity and reliability testing, and concluding with path analysis results, which assess both the direct and mediating effects of work culture on employee performance.

A total of 40 employees from the simulator division of the aviation training institution participated in this study. The demographic characteristics of respondents were analyzed to provide contextual understanding of the sample composition. Table 1 presents a summary of respondents' profiles, including age, years of experience, and educational qualifications.

Table 1. Summary of Respondents' Demographics

Variable	Frequency (n = 40)	Percentage (%)
Age		
20-30 years	12	30.0%
31-40 years	18	45.0%
41-50 years	8	20.0%
Above 50 years	2	5.0%
Years of Experience		
Less than 5 years	10	25.0%
5-10 years	15	37.5%
11-15 years	8	20.0%

More than 15 years	7	17.5%
Educational Background		
Diploma	14	35.0%
Bachelor's Degree	22	55.0%
Master's Degree	4	10.0%

The demographic data indicate that the majority of respondents (45%) were aged between 31 and 40 years, with 55% holding a bachelor's degree. Additionally, most employees had work experience ranging from 5 to 10 years, reflecting a moderately experienced workforce in the simulator division.

To ensure the accuracy and consistency of the measurement instrument, Cronbach's alpha reliability tests were conducted for each variable. A Cronbach's alpha value above 0.70 indicates acceptable internal consistency (Ardiansyah et al., 2023). Table 2 presents the reliability coefficients for each construct.

Table 2. Reliability Analysis Using Cronbach's Alpha

Variable	Number of Items	Cronbach's Alpha
Work Environment	6	0.82
Competency	5	0.79
Work Culture	5	0.85
Employee Performance	6	0.88

The results confirm that all constructs met the reliability threshold ($\alpha > 0.70$), demonstrating a high level of internal consistency across survey items (Putri & Suhartono, 2023).

The primary objective of this study was to examine the direct effects of work environment and competency on employee performance and to assess whether work culture mediates these relationships. Path analysis was employed using SPSS 25, and standardized regression coefficients were calculated to determine the

significance of each hypothesized relationship.

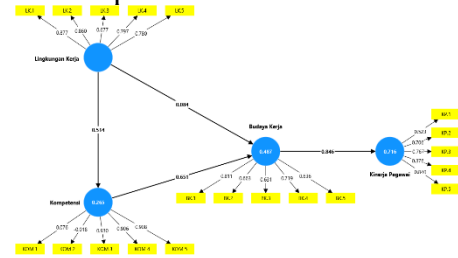


Figure 1. Results from PLS SEM Analysis

Regression analysis was conducted to examine the direct relationships between work environment, competency, and employee performance. The standardized coefficients (β), t-values, and significance levels are presented in Table 3.

Table 3. Results of Regression Analysis for Direct Effects

Independent Variable	Dependent Variable	Standardized Beta (β)	t-value	p-value
Work Environment (X1)	Employee Performance (Y)	0.12	1.43	0.160
Competency (X2)	Employee Performance (Y)	0.63	5.21	0.001 **

The analysis revealed that competency had a significant positive effect on employee performance ($\beta = 0.63$, $p = 0.001$), supporting previous research suggesting that competency enhances work efficiency (Nofiar et al., 2021). However, work environment was not found to be a significant predictor of employee performance ($\beta = 0.12$, $p = 0.160$), suggesting that physical and social workplace conditions may not be the primary determinants of performance in this aviation training context.

To test whether work culture mediates the relationship between competency and employee performance, Baron and Kenny's (1986) three-step mediation approach was applied. The results are summarized in Table 4.

Table 4. Results of Regression Analysis for Direct Effects

Path Relationship	Standardized Beta (β)	t-value	p-value
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Competency → Work Culture	0.58	4.97	0.002**
Work Culture → Employee Performance	0.52	4.45	0.003**
Competency (direct effect) → Employee Performance	0.37	3.22	0.010*

The results confirm that work culture significantly mediates the relationship between competency and employee performance. Employees with higher competency not only exhibit stronger individual performance but also contribute to a positive work culture, which further enhances organizational performance (Sukartini & Gaol, 2022). This finding aligns with existing literature emphasizing the role of workplace culture as an essential enabler of workforce effectiveness (Sianturi et al., 2022).

The findings underscore the importance of developing competency-based training programs while fostering a strong organizational culture to optimize employee performance. These insights provide actionable recommendations for HR managers in aviation training institutions, ensuring that work culture and competency development initiatives are prioritized to enhance workforce efficiency.

The findings of this study provide empirical insights into the role of work environment, competency, and work culture in shaping employee performance within the simulator division of an aviation training institution. The discussion integrates these findings with existing literature to provide a broader understanding of their theoretical and practical implications. Additionally, the study highlights potential implementation strategies and acknowledges its limitations to guide future research.

The results indicate that competency has a significant and positive effect on employee performance ($\beta = 0.63$, $p = 0.001$). This finding aligns with prior studies emphasizing the role

of competency in enhancing work efficiency and overall performance outcomes (Nofiar et al., 2021; Ardiansyah et al., 2023). Employees possessing high levels of job-related skills, knowledge, and expertise are more likely to perform their tasks efficiently, contributing to improved training outcomes in the aviation sector. This is particularly crucial in highly technical environments such as flight simulation training, where precision and adherence to operational procedures are paramount (Putri & Suhartono, 2023). The significant effect of competency on performance underscores the need for continuous training programs, upskilling initiatives, and competency-based human resource strategies to ensure that employees meet industry demands.

Conversely, the work environment was found to have an insignificant impact on employee performance ($\beta = 0.12$, $p = 0.160$). This contradicts previous research suggesting that favorable workplace conditions positively influence job satisfaction and performance (Herlinda & Suriani, 2021; Saputra, 2021). While a well-structured work environment, including proper lighting, ergonomic settings, and conducive social interactions, is often linked to higher productivity, the findings of this study suggest that competency and work culture play a more dominant role in determining performance outcomes in aviation training institutions. This could be attributed to the structured nature of aviation training environments, where employees operate under standardized conditions with minimal variability in their work settings. Unlike industries where workplace flexibility and comfort significantly impact performance, aviation training adheres to rigid operational protocols, potentially

diminishing the relative importance of workplace conditions.

A key contribution of this study is the confirmation of work culture as a significant mediating factor between competency and employee performance. The mediation analysis revealed that competency positively influences work culture ($\beta = 0.58$, $p = 0.002$), and in turn, work culture enhances employee performance ($\beta = 0.52$, $p = 0.003$). These findings suggest that a strong organizational culture acts as a reinforcing mechanism that enables competent employees to maximize their performance. This aligns with research emphasizing the importance of workplace culture in shaping employee engagement, motivation, and productivity (Sianturi et al., 2022; Sukartini & Gaol, 2022). In aviation training institutions, work culture encompasses adherence to safety protocols, teamwork, discipline, and continuous learning, all of which contribute to improved operational efficiency. The role of culture in this context is particularly relevant given the highly procedural nature of aviation training, where structured workflows and adherence to established standards are essential for success.

These findings provide critical theoretical and practical implications. Theoretically, this study contributes to human resource management (HRM) literature by demonstrating the mediating role of work culture in competency-driven performance models. While existing studies have examined competency and work culture independently, few have explored their interdependent relationships within aviation training institutions (Saptyaningsih, 2021; Reffi & Jhon, 2023). By confirming that work culture amplifies the impact of competency on performance, this study extends existing

HRM frameworks and highlights the importance of fostering organizational culture alongside employee skill development. Practically, these findings underscore the need for aviation training institutions to implement targeted interventions that strengthen work culture, such as leadership development programs, peer mentoring, and collaborative team-building initiatives. Organizations should prioritize cultural alignment in employee training, ensuring that competency development is integrated with organizational values and workplace behaviors.

Additionally, the findings suggest that improving work culture can serve as a compensatory mechanism for performance improvements in environments where workplace conditions are less influential. Since work environment did not significantly impact performance, institutions can focus on strengthening cultural values and reinforcing competency-driven policies to achieve higher workforce efficiency. This can be achieved through leadership initiatives that promote collaborative learning, continuous feedback, and structured communication channels, which are critical for sustaining high performance in aviation training environments.

However, this study is subject to several limitations. First, the sample size of 40 respondents may limit the generalizability of findings to broader aviation training populations. While the results provide valuable insights, future research should expand the sample size to include multiple training institutions to enhance external validity. Second, this study relies on self-reported survey data, which may be subject to response bias (Ali et al., 2022). Employees might have provided socially desirable responses regarding their workplace experiences, potentially influencing the accuracy of

reported relationships. Future studies should incorporate triangulated data collection methods, such as interviews, observational studies, or performance-based assessments, to validate the findings further.

Additionally, while this study establishes causal pathways using path analysis, it does not capture longitudinal effects of competency and work culture on performance over time. Given that workplace behaviors and competencies evolve, future research should adopt longitudinal study designs to assess how these relationships change dynamically (Putri & Suhartono, 2023). Moreover, future research could explore additional moderating variables, such as leadership style, technological advancements, or psychological well-being, which may influence the interplay between competency, work culture, and performance in aviation training settings.

In summary, this study provides empirical evidence that competency is the strongest predictor of employee performance, and that work culture serves as a critical mediator in competency-driven performance models. These findings highlight the importance of integrating cultural development initiatives with skill enhancement programs to optimize workforce performance. While work environment did not directly impact performance, the results suggest that in highly procedural work settings such as aviation training, competency and organizational culture play a more decisive role in shaping employee outcomes. These insights contribute to HRM literature and offer actionable recommendations for aviation training institutions seeking to improve employee performance through strategic competency development and cultural alignment.

CONCLUSION AND SUGGESTION

This study examined the relationships between work environment, competency, work culture, and employee performance in the simulator division of an aviation training institution. The findings indicate that competency is the strongest determinant of employee performance, emphasizing the need for skill development and continuous training. In contrast, the work environment was found to be insignificant in predicting employee performance, suggesting that competency and organizational culture play a more critical role in shaping workforce efficiency in structured, high-precision environments. Additionally, the study confirmed that work culture serves as a significant mediating factor, amplifying the impact of competency on performance. These findings contribute to the human resource management (HRM) literature by demonstrating how organizational culture can enhance competency-driven performance models, particularly in aviation training institutions where adherence to procedures, discipline, and teamwork are essential for operational success.

The implications of these findings are both theoretical and practical. Theoretically, this study expands HRM research by illustrating how competency and work culture interact to influence employee performance, offering insights into organizational dynamics in highly structured workplaces. Practically, these results provide actionable recommendations for aviation training institutions, highlighting the need to prioritize cultural development alongside competency-building programs. Future research should consider expanding the sample size to enhance the generalizability of findings and incorporating longitudinal designs to assess how these relationships evolve over time. Additionally, examining

moderating factors such as leadership style and technological advancements could provide deeper insights into optimizing workforce performance in aviation and other technical training environments.

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