

## The Effect of Work Environment, Employee Training, and Leadership Style on Service Quality with Employee Performance as an Intervening Variable at Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak

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### ABSTRACT

This study aims to analyze the effect of work environment, employee training, and leadership style on service quality with employee performance as an intervening variable at Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak. This study employed a quantitative approach with an explanatory research design. The population consisted of employees of the Customs and Excise Supervision and Service Office of Tanjung Perak, with a sample of 198 respondents. Data were collected using a questionnaire and analyzed using SEM-PLS. The results show that work environment, employee training, and leadership style have a positive and significant effect on employee performance. Work environment, employee training, leadership style, and employee performance also have a positive and significant effect on service quality. In addition, employee performance is proven to mediate the effect of work environment, employee training, and leadership style on service quality. These findings indicate that improving service quality is not only directly determined by organizational factors, but also through the improvement of employee performance. Therefore, the Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak needs to strengthen a conducive work environment, practical employee training, supportive leadership, and reliable and responsive employee performance.

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### Introduction

Public service quality is an important measure for assessing the ability of government organizations to meet the needs of the public and service users. In the context of the Directorate General of Customs and Excise, service quality has strategic importance because it is directly related to customs services, supervision of goods traffic, trade facilitation, and contributions to state revenue. In 2024, customs and excise revenue reached IDR 300.2 trillion, increasing by 4.9% compared with the previous year (ANTARA News, 2025). This

condition indicates that the effectiveness of customs services affects not only service users but also national fiscal interests.

The demand for customs services continues to increase along with the growth of logistics and trade activities. Pelindo Terminal Petikemas recorded container throughput of 12,489,927 TEUs in 2024, including an increase in international containers (ANTARA News, 2025; Kompas.com, 2025). At the same time, PT Terminal Petikemas Surabaya recorded throughput of more than 1.5 million TEUs in 2024, reflecting the high level of activity in the Tanjung Perak Port area (ANTARA Jatim, 2024). These activities require customs services that are fast, accurate, reliable, and responsive to the needs of service users.

Although service improvements continue to be carried out, public services still face various challenges. The container accumulation phenomenon in 2024, including 9,111 containers at Tanjung Perak Port, shows that customs services are strongly influenced by regulatory adaptation, inter-agency coordination, system readiness, and employee capability in delivering services (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2024). Tanjung Perak Customs and Excise has also improved its services through a coffee morning on the service user satisfaction survey and a CEISA 4.0 coaching clinic (Direktorat Jenderal Bea dan Cukai, 2024). These efforts demonstrate a commitment to improvement, while also showing that service quality needs to be continuously examined from the perspective of internal organizational factors.

From a human resource management perspective, service quality is not determined only by procedures and work systems, but also by internal conditions that shape employee behavior. A conducive work environment can help employees work comfortably and in a coordinated manner. Employee training is needed so that employees have knowledge and skills aligned with service requirements. An appropriate leadership style is also required to provide direction, support, and opportunities for participation. Armstrong & Taylor (2023) explain that human resource management includes the creation of working conditions, competency development, performance management, and employee contributions to organizational goals.

Previous studies show that work environment and leadership can shape employee performance (Li et al., 2025; López-Cabarcos et al., 2022). Work environment has also been shown to be related to employee behavior and performance (Raziq & Maulabakhsh, 2015; Zhenjing et al., 2022). Giday & Elantheraiyan (2023) found that needs-based training can improve employee performance, while Kim et al. (2024) emphasized that employee performance plays an important role in shaping customer service quality. However, studies that integratively examine the effects of work environment, training, and leadership style on service quality through employee performance in the context of the Tanjung Perak Intermediate Customs and Excise Supervision and Service Office remain limited.

In addition to international sources, empirical support from the Indonesian context is also needed so that this article does not rely solely on findings from abroad. Febrianto et al. (2025), found that transformational leadership and work motivation had positive and

significant effects on employee performance, both individually and simultaneously. Irbani et al. (2025) showed that leadership effectiveness must be supported by individual capability and disciplined work behavior. Kurniawati et al. (2025), confirming that employee performance is shaped not only by individual confidence but also by organizational conditions. Similarly, Nugroho et al. (2025) found that charismatic leadership, work environment, and organizational culture significantly improved employee performance at the Bangkalan Pratama Tax Service Office. Sari et al. (2025) also showing that participative leadership and employee involvement are important for strengthening public-sector performance. Nawang et al. (2025) found that performance is shaped by the way jobs are structured and how employees are rewarded and motivated. Prasetyowati et al. (2025) showed that workload, work environment, and remuneration policy encouraged higher work motivation and employee performance. Rousita et al. (2025) found that employee engagement and organizational culture enhanced job satisfaction and employee performance at Bhayangkara Hospital Surabaya, although the indirect role of job satisfaction was relatively weaker than the direct effects of engagement and culture. Sanggarwati et al. (2021) found that transformational leadership significantly influenced job satisfaction, but several relationships involving work discipline and employee performance were not significant, indicating that leadership and discipline do not always translate directly into performance without supportive organizational factors. Windy et al. (2026) found that transformational leadership and work discipline positively and significantly improved employee performance at the Communication and Informatics Office of Sidoarjo Regency, especially in the context of digital transformation and increasing public-service demands.

These studies provide strong empirical evidence that leadership, work environment, motivation, discipline, remuneration, engagement, organizational culture, and individual factors are related to employee performance in Indonesian public-sector and service organizations. However, most of these studies still focus on employee performance as the final outcome. They have not specifically examined service quality as the final dependent variable, nor have they tested employee performance as an intervening mechanism linking work environment, employee training, and leadership style to service quality in the customs and excise service context. Therefore, this study addresses this gap by developing an integrated model in the context of the Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak, where service quality is positioned as the final outcome and employee performance is placed as the intervening variable.

This study aims to analyze the effect of work environment, employee training, and leadership style on service quality with employee performance as an intervening variable at Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak. Based on the conceptual framework and previous studies, the hypotheses of this study are as follows:

H1 work environment affects employee performance;

H2 employee training affects employee performance;

- H3 leadership style affects employee performance;
- H4 work environment affects service quality;
- H5 employee training affects service quality;
- H6 leadership style affects service quality;
- H7 employee performance affects service quality;
- H8 work environment affects service quality through employee performance;
- H9 employee training affects service quality through employee performance; and
- H10 leadership style affects service quality through employee performance.

## Method

This study used a quantitative approach with an explanatory research design. The quantitative approach was used because this study tested relationships among variables based on numerical data obtained through questionnaires. The explanatory design was used because the main objective of the study was to explain the effect of work environment, employee training, and leadership style on service quality through employee performance. This design is appropriate for research that tests models of direct and indirect relationships among latent variables.

The population of this study consisted of employees of Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak. The research sample consisted of 198 respondents who met the criteria and provided complete responses. This number met the minimum sample requirement based on the known population calculation. Primary data were collected using a closed-ended questionnaire with a 1 to 5 Likert scale, ranging from strongly disagree to strongly agree. Secondary data were used as supporting information, particularly regarding the organization, services, and the customs service context.

The research variables consisted of work environment, employee training, leadership style, employee performance, and service quality. Work environment was measured using indicators of working hours, work safety, relationships among employees, appreciation, and management support, referring to Raziq & Maulabakhsh (2015). Employee training was measured through training needs assessment, training resource availability, and employee perception toward training, referring to Giday & Elantheraiyan (2023). Leadership style was measured through participative and supportive leadership, referring to Li et al. (2025). Employee performance and service quality were measured using indicators from Kim et al. (2024).

Data were analyzed using PLS-SEM with SmartPLS. Hair et al. (2022) explain that PLS-SEM is appropriate for predictive models involving latent variables and mediation relationships. Model evaluation was conducted in two stages: evaluation of the measurement model and evaluation of the structural model. The measurement model was assessed using loading factor, average variance extracted, composite reliability, Cronbach alpha, cross

loading, and the Fornell-Larcker criterion. The structural model was assessed using R-square, Q-square, path coefficient, t-statistic, p-value, and specific indirect effect.

## Results and Discussion

### Results

The respondent profile shows that the study involved 198 employees of Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak. Most respondents were male, in productive age groups, held bachelor's degrees, were civil servants, and had participated in training or competency development. These characteristics indicate that the respondents had adequate experience and understanding to assess the work environment, employee training, leadership, employee performance, and service quality.

The descriptive statistics show that all variables fell within the agree to strongly agree categories. For the work environment variable, the highest score was found in management support, while the lowest score was found in appreciation of employee contributions. For the employee training variable, the highest score was found in the benefit of training in helping task completion, while the lowest score was found in the benefit of training in improving work effectiveness and efficiency. For the leadership style variable, leader support was the strongest aspect, while consideration of employee opinions and opportunities to provide suggestions were relatively lower. For the employee performance variable, work responsibility was the strongest indicator, while work reliability still needed to be strengthened. For the service quality variable, service effectiveness was the strongest indicator, while the ability to solve service users' problems was an indicator that could still be improved.

**Table 1. Measurement Model Results**

Variable	Composite Reliability	Cronbach Alpha	AVE
Work environment	0.956	0.942	0.812
Employee training	0.973	0.969	0.801
Leadership style	0.958	0.947	0.792
Employee performance	0.953	0.935	0.836
Service quality	0.956	0.943	0.814

Source: Primary data processed, 2026.

The measurement model testing shows that all indicators had loading factors greater than 0.70. The AVE values of all constructs were also greater than 0.50, indicating that convergent validity was achieved. The composite reliability and Cronbach alpha values of all constructs were greater than 0.70, indicating that the instrument was reliable. Discriminant validity was also achieved because each indicator's cross loading was higher on its original construct than on other constructs, and the square root of AVE in the Fornell-Larcker criterion was greater than the correlations among constructs.

**Table 2. Structural Model Evaluation**

Endogenous Variable	R-square	R-square Adjusted
Employee performance	0.519	0.512
Service quality	0.620	0.612

Source: Primary data processed, 2026.

The structural model evaluation shows that the R-square value for employee performance was 0.519, while the R-square value for service quality was 0.620. These results indicate that work environment, employee training, and leadership style were able to explain employee performance, while service quality could be explained by work environment, employee training, leadership style, and employee performance. The Q-square value of 0.817 indicates that the model had good predictive relevance.

The hypothesis testing results show that all direct and indirect relationships were positive and significant. Therefore, all hypotheses in this study were accepted. A summary of the hypothesis testing results is presented in Table 4.

**Table 3. Hypothesis Testing Results**

Hyp.	Path	Original Sample	T-statistic	P-value	Result
H1	Work environment -> employee performance	0.245	2.976	0.003	Accepted
H2	Employee training -> employee performance	0.305	3.349	0.001	Accepted
H3	Leadership style -> employee performance	0.235	2.469	0.014	Accepted
H4	Work environment -> service quality	0.212	2.367	0.019	Accepted
H5	Employee training -> service quality	0.259	2.960	0.003	Accepted
H6	Leadership style -> service quality	0.183	2.332	0.021	Accepted
H7	Employee performance -> service quality	0.235	3.239	0.001	Accepted
H8	Work environment -> employee performance -> service quality	0.058	2.068	0.040	Accepted
H9	Employee training -> employee performance -> service quality	0.072	2.498	0.013	Accepted
H10	Leadership style -> employee performance -> service quality	0.055	1.984	0.049	Accepted

Source: Primary data processed, 2026.

The first finding shows that work environment affects employee performance. This result indicates that employees need safe working conditions, good working relationships, management support, and appreciation in order to work optimally. This finding is consistent with Zhenjing et al. (2022), who emphasized that work environment can improve employee performance. In the context of the Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak, management support was the main strength of the work environment, while appreciation of employee contributions still needs attention so that employees feel their contributions are recognized. This finding is also supported by local

studies showing that work environment plays a role in improving employee performance in public-sector organizations, including Kurniawati et al. (2025), Nugroho et al. (2025), Sari et al. (2025), and Prasetyowati et al. (2025).

Employee training was also proven to affect employee performance. This result indicates that training designed based on job needs and supported by adequate training resources can help employees understand tasks, procedures, service systems, and work completion. This finding is in line with Giday & Elantheraiyan (2023) and Ruswanto et al. (2024), who showed that training plays a role in improving performance. The descriptive results show that training was most strongly perceived as helping task completion, although its impact on work efficiency still needs to be strengthened. In terms of performance improvement, Nawang et al. (2025) also emphasized that job management factors and motivation contribute to employee work achievement; therefore, training should be directed toward real work application.

Leadership style was proven to affect employee performance. Leaders who provide direction, support, consultation, and opportunities for participation can help employees work in a more focused manner. This finding supports Li et al. (2025) and López-Cabarcos et al. (2022), who positioned leadership as an important factor in improving performance. In this study, leader support was the strongest aspect, while opportunities for employees to provide suggestions remained relatively lower. This indicates that performance improvement requires not only direction, but also more open two-way communication. Empirical support is also found in Febrianto et al. (2025), Irbani et al. (2025), Sanggarwati et al. (2021), and Windy et al. (2026), who confirmed that leadership is an important factor in shaping employee performance.

Work environment, employee training, and leadership style were also proven to have direct effects on service quality. This finding shows that service quality is shaped not only by individual performance, but also by organizational conditions that enable services to be delivered in an orderly, accurate, and responsive manner. Work environment supports coordination; training improves procedural and technical understanding; and leadership determines service direction, work standards, and the resolution of service barriers. This finding extends previous studies, which generally emphasized the effect of organizational factors on performance rather than directly on service quality.

Employee performance was proven to affect service quality. This finding is in line with Kim et al. (2024), who showed that employee performance plays a role in shaping customer service quality. In customs service organizations, service quality depends on employees' ability to work accurately, responsibly, reliably, and with orientation toward service users' needs. The descriptive results show that work responsibility was the strongest aspect, but work reliability still needs to be strengthened so that the services provided become more consistent and trustworthy.

The mediation testing results show that employee performance mediated the effects of work environment, employee training, and leadership style on service quality. This means

that internal organizational factors will be more effective in improving service quality when they are able to encourage employees to demonstrate better performance. This finding strengthens the view that public service quality results from a combination of organizational systems and employee work behavior. Therefore, service quality improvement needs to be carried out simultaneously by strengthening the work environment, practical training, supportive-participative leadership, and employee work reliability.

## Conclusion

This study concludes that work environment, employee training, and leadership style have positive and significant effects on employee performance. These three factors also have positive and significant effects on service quality. In addition, employee performance has a positive and significant effect on service quality and is proven to mediate the effects of work environment, employee training, and leadership style on service quality. Thus, service quality at Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak is determined not only directly by organizational factors, but also by the ability of these factors to improve employee performance.

The practical implication of this study is that Medium Customs Type, Customs and Excise Controlling and Servicing Office of Tanjung Perak needs to strengthen appreciation for employee contributions, direct training toward service-case simulations and the use of digital systems, expand employee participation in service improvement, strengthen standardization and monitoring of task implementation, and improve employees' ability to solve service users' problems. Future studies may involve service users as respondents so that service quality can be assessed from both the service provider and service recipient perspectives.

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