THE INFLUENCE OF TRAINING NEEDS ASSESSMENT, TRAINING DESIGN, TRAINING DELIVERY STYLE, AND TRAINING EVALUATION ON EMPLOYEE PERFORMANCE AT PERUMDA TIRTANADI

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Abstract

This study aims to analyze the effect of training on employee performance at Perumda Tirtanadi, a regional-owned company engaged in public water services in North Sumatra. The research applies a quantitative associative approach to examine the influence of four key dimensions of training training needs assessment, training design, training delivery style, and training evaluation on employee performance. Data were collected through questionnaires distributed to employees across several divisions of Perumda Tirtanadi and analyzed using multiple linear regression with SPSS. The results show that training has a significant positive effect on employee performance, both partially and simultaneously. Each dimension of training contributes differently, with training design and training evaluation showing the strongest influence. These findings indicate that a systematic and well-evaluated training program can enhance employees' competence, productivity, and service quality. The study emphasizes the importance of continuous human resource development and provides practical recommendations for improving the effectiveness of training programs within public sector organizations.

Keywords: *Training, Training Needs Assessment, Employee Performance, Human Resource Development, Perumda Tirtanadi*

INTRODUCTION

In an era of increasingly fierce global competition, companies are required to have competent, professional, and adaptable human resources (HR). HR is a company's most important asset because it directly contributes to achieving organizational goals. According to Kuruppu et al. (2021), a company's success depends heavily on the standards and quality of its human resources. Employees are not only policy implementers but also the driving force behind the organization's sustainability and development (Ansah & Rita, 2019). Therefore, effective human resource management (HRM) is key to optimally managing and developing employee potential (Marwansyah, 2019). In this context, the implementation of good human resource management encompasses various functions such as planning, recruitment, development, compensation, and objective performance appraisal (Edison et al., 2020). Of all these functions, HR development through training is the most strategic aspect because it is directly related to improving employee skills, productivity, and work motivation. Training is seen as a long-term investment that not only improves individual quality but also contributes to the effectiveness and competitiveness of the organization as a whole (Kenny & Nnamdi, 2019; Gustiana et al., 2022).

Regional Public Company (Perumda) Tirtanadi is a Regionally-Owned Enterprise (BUMD) that plays a vital role in providing and managing clean water services in North Sumatra Province. Established in 1905, Perumda Tirtanadi bears a significant responsibility in supporting economic development and public welfare through the provision of quality public services. In carrying out its duties, employee performance is a crucial factor in determining the company's success in providing optimal service to customers. The performance of Perumda Tirtanadi employees can be measured through various indicators, one of which is the ability to handle customer complaints. Based on internal company data (2024), the number of customer complaints increased from 95,551 cases in 2021 to 123,797 cases in 2023. However, the percentage of complaint resolution decreased from 90.89% in 2021 to 83.13% in 2023. This condition indicates that despite the increase in the number of complaints, the effectiveness of employee problem handling has actually decreased, which indicates a decline in service performance and work productivity. This phenomenon requires an in-depth evaluation of the factors influencing

employee performance within Perumda Tirtanadi. One factor believed to have a significant influence on improving performance is job training. Training is a systematic process designed to improve employees' knowledge, skills, and attitudes so they can perform their tasks more effectively (Khan et al., 2019). According to Karim (2019), the quality of an organization's human resources is highly dependent on the success of its training programs. Appropriate training will produce a competent and highly competitive workforce. However, pre-research observations at Perumda Tirtanadi showed that training implementation was not accompanied by adequate monitoring and evaluation, so its effectiveness in improving employee performance cannot be ascertained.

Perumda Tirtanadi training data for the 2021–2023 period shows that average training hours fluctuate and there are inequalities between job levels and gender. Senior management employees receive more training hours than middle and lower-level employees. Furthermore, female entry-level employees receive fewer training hours than male employees. This reflects unequal opportunities for personal development among employees, even though equal training is crucial for improving the company's collective competency. Effective training should be structured with a systematic and measurable approach. According to Mondy and Martocchio (2020), a systematic approach to training encompasses four main stages:

1. Training Needs Assessment, to identify gaps between actual and expected capabilities;
2. Training Design (training design), to determine appropriate training objectives, materials and methods;
3. Training Delivery Style (training delivery), which emphasizes the effectiveness of the method of delivering material to participants; and
4. Training Evaluation (training evaluation), to assess the extent to which training has succeeded in improving participant competence and performance.

This systematic approach ensures that training isn't just a formal activity, but actually has a real impact on productivity and performance. According to Armstrong (2020), well-designed training will contribute to changes in work behavior, increased motivation, and the acquisition of new skills relevant to the organization's needs.

LITERATURE REVIEW
Human Resource Management (HRM)
Human resource management is the process of planning, organizing, directing, and controlling the workforce to achieve organizational goals effectively and efficiently (Hasibuan, 2019). Human resource management functions to manage human potential through recruitment, development, compensation, and performance appraisal (Kasmir, 2019). The primary goal of human resource management is to create employees who are productive, competent, and loyal to the organization.

Training
Training is a planned effort to improve employees' knowledge, skills, and attitudes so they can perform their tasks better (Noe, 2020; Dessler, 2020). Effective training programs can improve technical skills, increase productivity, and foster work enthusiasm and loyalty (Gustiana et al., 2022).

Employee Performance
Performance is the work results achieved by an individual in accordance with their responsibilities (Kasmir, 2019). Performance is influenced by ability, motivation, training, compensation, and the work environment (Simarmata et al., 2021). Good employee performance is reflected in productivity, efficiency, and quality of customer service.

METHOD
Types and Approaches of Research
This study uses a quantitative approach with an associative method, aiming to determine the relationship and influence between training variables and employee performance. The quantitative approach was chosen because it can explain phenomena based on numerical data that can be tested statistically.

Location and Time of Research
The research was conducted at the Regional Public Company (Perumda) Tirtanadi, located in North Sumatra Province. The study period was January–June 2025, covering the preparation, data collection, analysis, and report preparation stages.

Population and Sample

The population of this study was all employees of Perumda Tirtanadi, both at the head office and service units. The sampling technique used was proportional random sampling, with the Slovin formula at a 5% margin of error. The sample size was determined based on the total active employee population registered in 2024.

RESULTS AND DISCUSSION
Research Hypothesis Testing
Simultaneous F Test

If the sig. value < 0.05, it means that the independent variable (X) simultaneously (together) influences the variable Y. From the SPSS Output table (Attachment), the sig. value is 0.000 < 0.05, so it can be concluded that the four independent variables simultaneously (together) influence employee performance at Perumda Tirtanadi.

The F table is searched for in the distribution of r values in the statistical table at a significance of 5% or 0.05 using the F table formula, namely:

F table = (k ; n – k)
Where: k = number of independent variables = 4
           n = number of samples = 99
Ftable value = (k ; n – k)
           = (4 ; 99 – 4)
           = (4 ; 95)
Then the F table value is found to be = 2.467

In this study, the results of the multiple linear regression analysis test obtained an F test value of 168,382 (F count) > 2.467 (F table) (seen in the SPSS Output attachment for the ANOVA Test) and a significance value of the F test of 0.000 < 0.05, meaning that the linear regression model is suitable for use with the conclusion that Ha is accepted where the variables training needs assessment (X1), training design (X2), training delivery style (X3), and training evaluation (X4) simultaneously have a significant effect on employee performance.

Table 4. 20 ANOVA Table

ANOVA ᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	5380.190	4	1345,048	**168,382**	**.000 ᵇ**
1	Residual	734,903	92	7,988		
	Total	6115.093	96			

a. Dependent Variable: KP
b. Predictors: (Constant), TE, TD, TDS, TNA

Partial t-test

If the sig. value is < 0.05, it means that the independent variable (X) partially influences the Y variable. The sig. value can be seen in the Coefficient output.

It can be seen in the SPSS t-Test Output Attachment that the t-test value for each variable is as follows:

Table 4.21 Regression Equation Values

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	4,277	2,885		3,147	.284
	TNA	**.684**	.090	.652	**7,569**	**.000**
1	TD	**.437**	.092	.398	**4,754**	**.000**
	TDS	**.134**	.086	.029	**2,400**	**.000**
	TE	**.157**	.028	.118	**2,230**	**.001**

a. Dependent Variable: Employee Performance

Table 4.22 Significance Values of Independent Variables

Independent Variable	Sig.	α	Information
X1	0.000	0.05	Influential
X2	0,000	0.05	Influential
X3	0.000	0.05	Influential
X4	0.001	0.05	Influential

Source: Processed primary data, 2024

If the calculated t value > t table then the independent variable (X) partially influences the dependent variable (Y).

The formula for finding the ttable value = $(\alpha/2 ; N - k - 1)$
$$= (0.05/2 ; 99 - 4 - 1)$$
$$= (0.025 ; 94)$$
$$= 1.661$$

Table 4.23 Comparison of t Values

Independent Variable	t_{count}	t_{table}	Information
X1	7,569	1,661	Have a significant impact
X2	4,754	1,661	Have a significant impact
X3	2,400	1,661	Have a significant impact
X4	2,230	1,661	Have a significant impact

So the conclusion of the partial t-test is as follows:
a. The training needs assessment variable on employee performance, where the Sig. value < 0.05 and tcount > ttable, based on these criteria, H0 is accepted where the training needs assessment variable has a significant effect on employee performance at Perumda Tirtanadi.
b. From the calculation results, the Sig. value is obtained < 0.05 and tcount > ttable, this means that Ha is accepted where the training design variable has a significant effect on employee performance at Perumda Tirtanadi.
c. From the calculation results, the Sig. value is obtained < 0.05 and t count > t table, this means that Ha is accepted where the training delivery style variable owned by employees has a significant effect on employee performance at Perumda Tirtanadi.
d. From the calculation results, the Sig. value is obtained < 0.05 and t count > t table, this means that Ha is accepted where the training evaluation variable owned by employees has a significant effect on employee performance at Perumda Tirtanadi.

Coefficient of Determination Test (R2)

The coefficient of determination (R2) essentially measures the extent to which the model is able to explain variations in the dependent variables, namely training needs assessment (X1), training design (X2), training delivery style (X3), and training evaluation (X4) on employee performance. Based on calculations using the SPSS program ver. 22, the value obtained was 0.938 (see the SPSS Output Appendix Model Summary Table).

Table 4. 24 SPSS Model Summary Output

Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson
1	.938 [a]	.880	.875	2.82632	1,959

a. Predictors: (Constant), TE, VTD, TDS, TNA
b. Dependent Variable: KP

This means that the influence of the four independent variables (X) on the dependent variable (Y) is 93.8%. Because the value obtained is almost 100%, it means that the independent variables provide almost all the information needed to predict the variation in the dependent variable.

DISCUSSION

The Influence of Training Needs Assessment on Employee Performance

Based on the results of the first hypothesis test, it is known that the t-significance value obtained is 0.000 < 0.05, meaning that the first hypothesis is accepted with a calculated t-value of 7.569 > 1.661 (t table). These results explain that there is a positive and significant influence of training needs assessment on employee performance at Perumda Tirtanadi. A training needs assessment (TNA) is the initial step in preparing and planning training. Training has often been conducted without a detailed understanding of the training needs of each relevant division or branch. For example, the Procurement Services Unit (ULP) Division, which handles procurement tenders, requires training on Goods and Services Procurement (PBJ). Meanwhile, the Drinking Water Treatment Division (PAM), which produces clean water, requires technical training on both the operation and maintenance of water treatment plants (IPA). The training provided is limited to general training. This approach is not conducive to achieving the training objectives of improving employee skills and knowledge relevant to their field of work. Lack of adequate skills and knowledge will significantly impact employee performance.

A training needs assessment (TNA) helps identify skills and knowledge gaps among employees. By identifying these needs, companies can design appropriate and specific training programs to address these gaps. When employees receive training relevant to their jobs, they can improve their competencies and skills, which in turn improves company performance and productivity. Furthermore, a training needs assessment (TNA) can ensure that training resources are optimized by focusing on areas that truly require improvement, preventing time or funds from being wasted on irrelevant training. With a proper training needs analysis, a company's investment in employee professional development can be more effective and efficient. These results theoretically support the statement of Saram et al., 2023, that training refers to a planned effort by an institution or organization to facilitate the learning process of its leaders and employees in order to acquire competencies that will result in increased performance at the individual level and at the overall organizational level.

The results of this study empirically demonstrate the influence of training needs assessment on employee performance. A similar study by Kazi, Ishraat, & Ishtiaque (2019) examined the impact of training needs assessment on employee performance in the telecommunications sector in Bangladesh. Primary data were collected from employees in the commercial departments of two telecommunications companies. This study demonstrated that training needs assessment plays a positive role in improving employee performance. Furthermore, previous research by Mahmud et al. (2019) and Rosemarie & Wacheke (2019) found that training needs assessment has a significant and positive relationship with employee performance levels.

The Influence of Training Design on Employee Performance

Based on the results of the second hypothesis test, it is known that the t-significance value obtained is 0.000 < 0.05, meaning that the second hypothesis is accepted with a t-statistic value of 4.754 > 1.661 (t table). These results explain that training design has a positive and significant influence on employee performance at Perumda Tirtanadi. Training design plays a crucial role in influencing employee performance. Good training design ensures that training content or materials are relevant and focused on specific job needs. When training is designed with employees' real needs in mind, the material presented is easier to understand and apply to daily tasks. This enables employees to effectively improve their skills and knowledge.

In reality, training should specifically address the participants' capabilities. For example, long-serving and experienced employees should receive more advanced and in-depth training than new employees, who are already sufficiently provided with basic and general training. If experienced employees are only given basic training, participants' interest and engagement in the training material will diminish, ultimately failing to improve their competency. Furthermore, in terms of training duration, it often occurs that the training time is insufficient to provide participants with a thorough understanding of the training material presented. This results in the training not improving employee performance. Furthermore, participants' abilities and backgrounds vary in how they perceive the material. For example, training on job costing or financial analysis would require approximately five days of training. However, the training only lasts two days. This, of course, does not significantly improve participants' understanding and, in turn, cannot improve their competency in carrying out work related to that field. These results theoretically support the explanation by Manasvi Mishra (2020), who explained that training is conducted to improve employee knowledge, abilities, attitudes, and skills. Training is a systematic process to improve the abilities, skills, and knowledge required to perform a specific job. Training plays a role in improving employee competency. This training not only improves the skills and abilities of new employees but also helps them address performance deficiencies. Therefore, managerial support in designing training programs will help

trainees improve their performance. The results of this study empirically demonstrate the influence of training design on employee performance. These findings are supported by research conducted by (Mohamad et al., 2020; Gegenfurtner et al., 2020), which confirmed that training design has a significant impact on training outcomes and employee performance. Training designs tailored to achieve training objectives can improve employee performance. These results are also supported by previous research findings by Rosemarie & Wacheke (2019); Bhatti et al. (2021); and Kashif and Tahir (2020), which stated that training design has a significant and positive relationship with employee performance levels.

The Influence of Training Delivery Style on Employee Performance

Based on the results of the third hypothesis test, it is known that the t-significance value obtained is 0.000 < 0.05, meaning that the third hypothesis is accepted with a t-statistic value of 2,400 > 1,661 (t table). These results explain that training delivery style has a positive and significant effect on employee performance at Perumda Tirtanadi. Training delivery style significantly and significantly impacts employee performance. One key factor is the instructor's delivery of training, which must utilize appropriate methods and techniques to ensure effective employee absorption of the material. Based on various realities, if instructors are unable to deliver training in an interactive and participatory manner, participants tend to feel bored and tired in the training environment. Therefore, it's important to choose instructors who understand and are proficient in various methods that can make the training atmosphere more engaging and less monotonous. An adaptive and responsive approach to participants' needs and learning styles is also crucial. Instructors who are able to adjust their delivery style based on participant feedback and real-world conditions will be more successful in delivering training materials effectively. This creates a more inclusive and supportive learning environment, so employees feel more motivated and engaged in the training process.

Another important aspect is experience, where the instructor's training delivery style is more appropriate if it uses case studies that directly address existing problems within the work environment. For experienced trainees, this also increases their passion for active participation in the training. If the instructor can present a case study similar to a current problem in the company, along with an explanation of possible solutions, this provides a much more valuable experience for participants than simply delivering theories that are not considered practical. Effective training delivery methods such as those above not only improve employee skills and knowledge, but also directly provide stronger input to management in addressing problems currently faced by the company. These results support the theory that training delivery is a critical step between training and performance improvement, and will remain a critical factor in determining the success of a training program (Othayman et al, 2020).

The results of this study empirically demonstrate the influence of training delivery style on employee performance. This finding is supported by research by Myles (2019), which analyzed the influence of training delivery style on employee performance. This study found that companies that strive to train and develop their employees effectively are more likely to engage with their work, thereby increasing performance and loyalty to the company. This is confirmed by previous research also by Kashif and Tahir (2020), which shows that there is a positive and significant correlation between delivery style and employee performance.

The Influence of Training Evaluation on Employee Performance

Based on the results of the fourth hypothesis test, it is known that the t-significance value obtained is 0.000 < 0.05, meaning that the fourth hypothesis is accepted with a statistical t-value of 2.230 > 1.661 (t table). These results explain that there is a positive and significant influence of training evaluation on employee performance at Perumda Tirtanadi.Training evaluation has a significant impact on employee performance at Perumda Tirtanadi. Through careful evaluation, training programs can be tailored to identify and meet individual and organizational needs. This not only improves employees' technical knowledge and job skills but also strengthens the competencies needed to achieve organizational goals. With a structured evaluation process, management can measure the effectiveness of training in improving productivity and service quality. Furthermore, appropriate evaluation helps create a work environment that supports professional development and motivates employees to contribute optimally. Thus, training evaluation is not only a tool for measuring training outcomes but also an integral strategy for improving overall quality and performance at Perumda Tirtanadi. These results theoretically support the statement that training is a key pillar that significantly predicts employee performance, which increases their capabilities, capacities, competencies, and recognition for their work and tasks (Kenny & Nnamdi, 2019).

The results of this study empirically demonstrate the influence of training evaluation on employee performance. This finding is supported by research by Nahrisah and Imelda (2019), which found that training evaluation significantly impacts employee performance. This finding is also supported by previous research by Rosemarie & Wacheke (2019), which stated that training evaluation using the Kirkpatrick model, namely reactions, learning, work behavior, and final grades, and concluded that training evaluation has a significant and positive relationship with employee performance.

The Influence of Training Needs Assessment, Training Design, Training Delivery Style and Training Evaluation on Employee Performance

Based on the results of the fifth hypothesis test, the F-statistic value using ANOVA was 0.000 < 0.05, meaning the fifth hypothesis was accepted. Therefore, it can be concluded that training needs assessment, training design, training delivery style, and training evaluation simultaneously have a positive and significant effect on employee performance. This is supported by research results by (Yimam, 2022) which show that various factors related to training, such as training design, training needs assessment, training delivery style, and training evaluation, have a significant positive impact on employee performance. These results are also in line with research showing that training has a significant positive relationship with employee performance, validating the findings of Nassary (2020) and Nzowa (2020).

CONCLUSION

Based on the results of the analysis and discussion carried out in this research, the researcher drew the following conclusions:
a. Based on the results of testing the first hypothesis, it is known that there is a positive and significant influence of training needs assessment on employee performance at Perumda Tirtanadi.
b. Based on the results of testing the second hypothesis, it is known that there is a positive and significant influence of training design on employee performance at Perumda Tirtanadi.
c. Based on the results of testing the third hypothesis, it is known that there is a positive and significant influence of training design on employee performance at Perumda Tirtanadi.
d. Based on the results of testing the fourth hypothesis, it is known that there is a positive and significant influence of training evaluation on employee performance at Perumda Tirtanadi.
e. Based on the results of testing the fifth hypothesis, it is known that training needs assessment, training design, training delivery style, and training evaluation have a simultaneous influence on employee performance at Perumda Tirtanadi.

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