The Influence of Leadership and Supervision on Work Discipline and Its Impact on Employee Performance At Pt. Elnusa Tbk Project Operation & Maintenance Talang Akar Pendopo (TAP)

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Abstract:

This study discussed the impact of leadership and supervision on work discipline and employee performance at PT Elnusa Tbk Project Operation & Maintenance Talang Akar Pendopo (TAP). Specifically, it investigated the direct effects of leadership and supervision on performance, as well as the indirect effects mediated by work discipline. The data was collected from 116 employees at PT Elnusa Tbk Project Operation & Maintenance Talang Akar Pendopo (TAP) and analyzed by using the Structural Equation Modelling (SEM) with Partial Least Square (smartPLS) software. The study employed tests for construct validity, reliability, and model fit, with a significance level of $\alpha = 0.05$. The findings reveal a positive but statistically insignificant effect of leadership and supervision on work discipline. However, leadership and supervision directly, positively, and significantly impact employee performance. Although leadership indirectly affects performance positively, work discipline does not mediate the relationship between supervision and employee performance. Moreover, work discipline significantly enhances employee performance at PT Elnusa Tbk Project Operation & Maintenance Talang Akar Pendopo (TAP).

1. Introduction

Human Resources (HR) are considered as the primary assets of an organization, essential for achieving business objectives through effective management. Employees play a crucial role in linking various organizational functions and their performance is a key determinant of a company's success.

Performance is generally defined as the success of an individual in carrying out a task. Every company continuously strives to improve its employees' performance, with the expectation that the company's objectives will be achieved. Employee capabilities are reflected in their performance, and good performance is considered optimal performance. Employee performance is one of the key assets for company in achieving its goals, making as critical focus for company leaders. According to Rivai and Basri, performance is the willingness of an individual or group to carry out an activity and complete it according to their responsibilities, producing the expected outcomes [8].

Work discipline can be interpreted as an employee consistently arriving and leaving on time, completing all tasks effectively, adhering to company regulations, and complying with prevailing social norms. It must be enforced within an organization, as the absence of good employee discipline makes it difficult for organization to achieve its goals. Good discipline is reflected on individual's strong sense of responsibility for the tasks assigned to them. According to Sinambela,

regulations are essential for creating order within the workplace, as the discipline of an office or workplace is considered good if most employees adhere to existing rules [40].

Farida and Hartono (2016:41), good discipline reflects a person's strong sense of responsibility towards the tasks assigned to them. Agustini stated that work discipline also involves the willingness and obedience to behave according to the rules established by the respective organization [2]. The factors influencing employee discipline, according to Afandi, include leadership, reward systems, ability, compensation, fairness, inherent supervision, disciplinary sanctions, assertiveness, and human relations [1].

To influence the discipline, leadership also affects performance. Leadership is a crucial factor as it can significantly impact employee performance, given that leaders are responsible for planning, informing, making, and evaluating various decisions that must be executed within the company. The success of a company is supported by the role of leader who can influence their subordinates. To achieve effective performance, a company needs a qualified and professional leader who can motivate subordinates to carry out their duties according to the company's established guidelines. The leader possesses different leadership characteristics; an authoritarian leader can negatively impact employee performance, causing stress and reducing enthusiasm for work. Kartono (2014:11) mentions that leadership is a distinctive characteristic, particularly suited to specific situations, since a group undertakes certain activities and has specific goals and tools.

Singodimedjo Sutrisno, (2019), stated that supervision also affects discipline [17]. It is essential in every job, especially within a company. Effective supervision ensures that employees perform their tasks with discipline and on time, leading to smooth operations and optimal work outcomes.

Study on the impact of leadership on performance by Bangun, Rejeki (2023) [16], Areffudin et al. (2023) [4], Muabuay et al. (2017) [35] showed that leadership has significant and positive impact on employee performance. Studies by Megantari et al. (2022) [34], Basuki Rahmat (2022), Nyoto et al. (2022), and Sutanjar et al. (2019) [45] indicated that leadership positively and significantly influences performance. While a study by Mubarak et al. (2022) [36] found no influence of leadership on employee performance, and Leo Shaputra Panjaitan (2022) reported that leadership has a positive but not significant impact on employee performance.

The study indicates mixed findings on the impact of leadership and supervision on employee performance and discipline, with some studies showing positive and significant effects, while others report negligible or negative impacts. These variations form the basis for identifying research gaps.

2. Study And Literature

2.1 Employee Performance

Mangkunegara (2017) stated that performance (work achievement) refers to the quality and quantity of work produced by an employee in carrying out their duties in accordance with the responsibilities assigned to them [13]. According to Hamali (2016), employee performance is the outcome of work that is strongly linked to the organization's strategic goals, customer satisfaction, and contributions to the economy [23].

It can be concluded that performance is the result of an employee's work in the process of fulfilling their duties and responsibilities over a specific period, which can influence the achievement of organizational goals.

Armstrong and Baron (Wibowo, 2018) identified several factors that influence employee performance, including [48]:

1) *Personal factors* are demonstrated by the individual's skill level, competencies, motivation, and commitment.
2) *Leadership* factors are reflected in the quality of guidance, encouragement, and support provided by managers and team leaders.
3) *Team factors* are shown by the quality of support provided by colleagues.
4) *System factors* are evidenced by the work systems and facilities provided by the organization.
5) *Contextual/situational factors* are indicated by the high levels of pressure and changes in both internal and external environments.

2.2 Work Discipline

Sutrisno (2019) argued that discipline reflects a condition or attitude of respect among employees toward the rules and regulations of an institution [16]. Keith Davis (as cited in Mangkunegara, 2020) stated that "Discipline is management action to enforce organization standards," meaning that work discipline can be understood as the application of management to reinforce organizational guidelines [33].

Nadeak (2020) suggested that one way to enhance employee productivity is by maintaining good work discipline [37]. Dewi and Harjoyo (2019) noted that etymologically, the term "*discipline*" is derived from the English word "*disciple*," meaning a follower, adherent, teaching, training, and so on [13].

According to Sinungan (2015), the indicators of work discipline are [41]:

1) *Attendance*
    Refers to the recording of employee attendance, that also serves as a tool to assess the extent to employees who comply with the company's regulations.

2) *Attitude and Behavior*
    Represents the degree to employee who adapts to carrying out all tasks assigned by their supervisor.

3) *Responsibility*
    Refers to the outcomes or consequences of an employee's actions in fulfilling the tasks entrusted to them.

3. Leadership

Leaders within an organization play a crucial role, not only internally for the organization itself but also in dealing with various external parties, all aimed at achieving the organization's objectives.

According to Sutrisno (2016), leadership is a process of directing and influencing the activities related to the tasks of group members [16]. Fahmi (2014) defined leadership as a discipline that comprehensively studies how to direct, influence, and supervise others to perform tasks according to planned directives [19]. Robbins (2016:127) stated that a leader is someone who can influence others and holds managerial authority. Leadership is the process of guiding a group toward achieving its goals.

Kartono (2014:159), an individual's leadership can be observed and assessed through the following indicators:

1) *Decision-making ability*
    Decision-making is a systematic approach to evaluate the nature of the alternatives faced and taking the action deemed most appropriate based on careful consideration.

2) *Motivational ability*
    Motivational ability refers to the driving force that causes a member of organization to willingly and voluntarily utilize their capabilities (in the form of skills or expertise), energy, and time to carry out various activities that are their responsibility and fulfill their duties in

order to achieve the organization's pre-established objectives and goals.

3) *Communication ability*
    Communication ability is the skill or competence to convey messages, ideas, or thoughts to others, with the aim that the recipients fully understand the intended message, whether through direct verbal communication or indirectly.

4) *Ability to manage subordinates*
    A leader must possess the desire to make others to follow their directives by effectively and appropriately using personal influence or positional authority in the long-term interests of the organization. This includes instructing others on what to do, with a range of tones from firm to requesting or even threatening, to ensure tasks are completed effectively.

5) *Responsibility*
    A leader must be responsible to their subordinates. Responsibility can be defined as the obligation to bear the consequences, shoulder accountability, and take full responsibility for everything that occurs.

6) *Emotional control ability*
    The ability to control emotions is crucial for success in life. The better one can manage their emotions, the easier it becomes to achieve happiness.

3.1 Supervision

In organization, each leadership function is closely interconnected, including planning, organizing, coordinating, issuing directives, and supervising. They represent the procedural steps or sequences for achieving the intended goals. Among all leadership functions, supervision is a key determinant of whether the targets or objectives that have been planned will be successfully achieved.

Daulay (2017), stated that supervision is a systematic effort to establish performance standards aligned with the objectives of planning, design a feedback information system, compare actual activities with the previously set standards, identify and measure deviations, and take corrective actions as necessary [11]. It ensures that all company resources are utilized most effectively and efficiently to achieve the company's objectives. This definition highlights that supervision is an essential process involving key elements.

The work supervision indicators, as defined by Siagian (2014), include [39]:

3.1.1 Input Control

It involves managing the organization's resources, including materials, finances, and human resources. The mechanisms of input control involve aligning individual interests with the company's main interests through appropriate employee selection, ensuring that the best and most capable employees are chosen. The examples include selection of test materials, objectivity, training, audio-visual aids, and facility tools.

3.1.2 Behavior Control

It encompasses all actions that regulate the activities of subordinates. This typically begins at the top management level and is then implemented at the middle and lower management levels. The basic function of behavior control is to ensure that subordinates perform their tasks according to the company's plans, monitor performance, and conduct employee performance evaluations.

3.1.3 Output Control

It focuses on setting targets for subordinates to follow through with managers. In output control, managers establish the desired outcomes that employees must achieve. It includes controlling the reward system with beneficial employee contributions, such as work targets, rewards, and bonuses.

3.1.4 Supervision

It is an activity that monitors job compliance, encompassing employees, objects, tools, and the results of their work.

3.1.5 Goal Alignment

It refers to the process of reviewing and re-checking completion schedules against the departmental targets and the overall organizational goals.

Figure 1. *Performance Data of O&M TAP regarding trunkline disruptions. Sources: PT. Elnusa Tbk O&m TAP, 2023*

The case of PT Elnusa Tbk Project O&M Talang Akar Pendopo (TAP) is presented as an example of a company that emphasizes the monitoring of employee performance and discipline to maintain operational efficiency. The company operates in Pertamina Hulu Rokan Regional 1 Zone 4 area, focusing on the operation and maintenance of oil transmission facilities, adhering to strict safety and environmental standards, and supporting smooth oil delivery operations.

3.2 Hypothesis

Based on the picture below, the research hypotheses propose the following relationships at PT Elnusa Tbk Project Operation & Maintenance Talang Akar Pendopo (TAP):
1. Leadership affects employee work discipline.
2. Supervision affects employee work discipline.
3. Leadership affects employee performance.
4. Supervision affects employee performance.
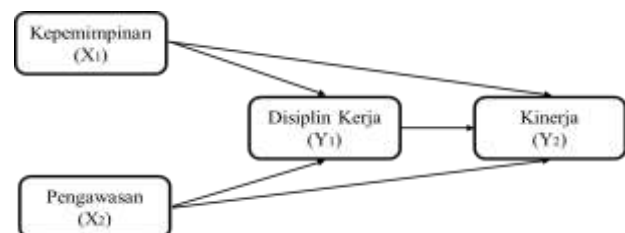5. Work discipline affects employee performance.

Figure 2. *Conceptual Framework. Sources: Researcher, 2023*

4. Research Methods

The study focuses on leadership, supervision, work discipline, and employee performance at PT Elnusa Tbk, Project O&M TAP. It is located within Pertamina Hulu Rokan, Regional 1, Zone 4, extending from Musi Timur collection station to KM 3 Plaju meter station. This area spans from Musi Rawas Regency to Palembang, within the operational area of Pendopo & Adera field. The site includes 4 Collection Stations (SP) or Main Collection Stations (SPU), 2 Boosters, 1 Production Collection Center (PPP) in Pengabuan, and 1 Meter Station at KM 3 Plaju.

This study employs a survey method as part of an explanatory study using a quantitative approach. The survey involved direct observation and the distribution of questionnaires to collect data from a sample. This approach enables the identification of relative occurrences and the examination of relationships between the research variables.

The operational variables measured in this study are leadership (X_1) and supervision (X_2) as independent variables, while work discipline (Y_1) and performance (Y_2) are the dependent variables. The data analysis in this study is conducted by using SmartPLS SEM (Partial Least Square – Structural Equation Modeling) software. PLS is capable of explaining relationships between variables as well as performing multiple analyses in a single test. The purpose of PLS is to assist researchers in confirming theories and determining whether relationships exist between latent variables. According to Imam Ghozali (2016), PLS method can describe latent variables (that cannot be directly measured) and measure them using indicators [24]. The using of SEM enables researchers to test the validity and reliability of research instruments, confirm the accuracy of the model, and examine the influence of one variable on another.

5. Results And Discussion

To determine the sample size taken from the population, the researcher used Slovin's formula as proposed by Sugiyono (2020) with a confidence level as 95% and margin of error (e) as 5%, described as follow: [43]

$$n = \frac{N}{1 + N\,(e)^2}$$

Where:
n = the required sample size
N = the population size
e^2 = the *sampling error* rate, 5% (0.05)
Thus, the calculation determines that the sample size for this study is 115.09 employees. For convenience, the sample is rounded up to 116 employees, with a margin of error as 5%.

5.1 Description of The Performance Variable

Based on the descriptive analysis, the data shows that the average performance variable is 34.2241; the most frequent data point (mode) is 34.0000; the median is 36.0000; and the standard deviation is 8.09196. For more details, described as follow.

Table 1. Description of The Employee Performance Variable

N		Performance
	Valid	116
Mean		34.2241
Median		36.0000
Mode		34.00[a]
Std. Deviation		8.09196

Sources: Primer Data, 2024

5.2 Description of Discipline Variable

Table 2. Description of Discipline Variable

N		Discipline
	Valid	116
Mean		23.8190
Median		24.0000
Mode		24.00
Std. Deviation		5.80195

Sources: Primer Data, 2024

Based on the descriptive analysis, the data shows that the average discipline variable is 23.8190; the most frequent data point (mode) is 24.0000; the median is 24.0000; and the standard deviation is 5.80195. For more details, refer to the following table:

5.3 Description of Leadership Variable

Based on the descriptive analysis, the data shows that the average leadership variable is 30.7500; the most frequent data point (mode) is 30.0000; the median is 32.0000; and the standard deviation is 7.31987.

Table 3. Description of Leadership Variable

N		Leadership
	Valid	116
Mean		30.7500
Median		32.0000
Mode		30.00
Std. Deviation		7.31987

Sources: Primer Data, 2024

5.4 Description of Supervision Variable

Based on the descriptive analysis, the data shows that the average supervision variable is 30.7328; the most frequent data point (mode) is 32.0000; the median is 32.0000; and the standard deviation is 7.39490. For more details, described as follow:

Table 4. Description of Supervision Variable

N		Supervision
	Valid	116
Mean		30.7328
Median		32.0000
Mode		32.00[a]
Std. Deviation		7.39490

Sources: Primer Data, 2024

5.5 Validity Test with *Partial Least Square* (SmartPLS)

5.5.1 Reliability & Validity Test

Based on the results of the tests above, it can be seen that the reliability of the data was evaluated by using Cronbach's alpha and composite reliability values. The analysis shows that Cronbach's alpha values for each variable are greater than 0.6, and the composite reliability values are also greater than 0.7. Thus, it can be concluded that all variables are reliable in terms of construct validity and can be used for data analysis.

Table 5. Reliability Test

	Cronbach's Alpha	Composite Reliability
Leadership	0,949	0,959
Supervision	0,947	0,958
Discipline	0,801	0,882
Performance	0,933	0,944

5.5.2 Model Fit Testing (Goodness of Fit)

The results of the model fit testing can be outlined as follows:

5.5.2.1 R-Square

R-Square test describes the amount of variation in the endogenous variable that can be explained by the exogenous or other endogenous variables within the analysis model. According to Chin (1998), the criteria for R-Square testing are 0.19 (low effect), 0.33 (moderate effect), and 0.66 (high effect). The results of the model fit test using the R-Square analysis are shown as follow:

Table 6. Model Fit Test Results for R-Square

Variable	R-Square
Discipline	0.532
Performance	0.853

Source: Data Processing Results, 2024

Based on the results, R-Square value for the discipline variable is 0.532 or 53.2%. It indicated that the combined influence of leadership and supervision on employee work discipline at PT. Elnusa Tbk Project O&M TAP falls within the moderate category. R-Square value for the performance variable is 0.853 or 85.3%, indicating that the combined influence of leadership and supervision on work discipline and employee performance at PT. Elnusa Tbk Project O&M TAP is classified as high.

5.5.2.2 Q-Square

Q-Square represents the predictive accuracy measure, indicating how well the changes in exogenous or endogenous variables can predict the endogenous variable. This measure is a form of validation in PLS used to indicate the predictive accuracy of the model. According to Hair et al. (2019), the interpretation of Q-Square values is qualitatively as follows: 0 (low effect), 0.25 (moderate effect), and 0.50 (high effect). The results of the model fit test using Q-Square analysis are shown as follow:

Table 7. Model Fit Test Results for Q-Square

Variable	Q-Square
Discipline	0.505
Performance	0.836

Source: Data Processing Results, 2024

Based on the test results, the Q-Square value for the discipline variable is 0.505. This value is greater than 0.50 but greater than 0, indicating that the predictive accuracy falls into the high category. The Q-Square value for the performance variable is 0.836, higher than 0.50, indicating that the predictive accuracy is classified as high.

5.5.2.3 Standardized Root Mean Square Residual (SRMR)

SRMR is a model fit measure that differentiates between the data correlation matrix and the estimated model correlation matrix (Yamin, 2022). According to Hair et al. (2021), the SRMR testing criteria indicated that SRMR value below 0.08 signifies a good model fit. The results of the model fit test using SRMR analysis are shown as follow:

Table 8. Model Fit Test Results for Q-Square SRMR Results

Model	SRMR
Saturated Model	0.057
Estimated Model	0.057

Source: Data Processing Results, 2024

Based on the test results, SRMR value for the estimated model is 0.057, that is lower than the 0.08 threshold. Therefore, it can be concluded that the model fits well.

5.5.2.4 PLS Predict

PLS Predict is used to measure the validation strength of PLS prediction tests. To demonstrate that the PLS results have strong predictive power, they must be compared to a baseline model, such as

a linear regression model (LM). The PLS model is considered to have strong predictive power if the RMSE (Root Mean Square Error) or MAE (Mean Absolute Error) values of the PLS model are lower than those of the linear regression model. The criteria are as follows:

- If all PLS model measurement items have lower RMSE and MAE values than the linear regression model, the PLS model has strong predictive power.
- If most of the items do, the predictive power is moderate.

The results of the model fit test using PLS Predict analysis are shown as follow:

Table 8. PLS Predict Results

PLS-SEM RMSE	PLS-SEM MAE	LM_RMSE	LM_MAE
1,126	0,828	1,215	0,936
1,058	0,766	1,124	0,794
0,976	0,679	1,060	0,731
0,632	0,465	0,695	0,502
0,955	0,716	1,042	0,782
0,722	0,510	0,788	0,579
0,790	0,586	0,825	0,601
0,650	0,457	0,703	0,472
0,816	0,557	0,902	0,598
0,664	0,500	0,797	0,557
0,734	0,510	0,806	0,559
0,862	0,561	0,891	0,641

Source: Data Processing Results, 2024

Based on the SRMR test results above, it is proof that the RMSE and MAE values in the PLS model are lower than those in linear model. It can be concluded that the predictive accuracy is categorized as high.

5.5.2.5 Cross-Validated Predictive Ability Test (CV PAT)

CVPAT is used to evaluate the predictive ability of the model (Sharma et al., 2022). It applies an out-of-sample prediction approach to calculate the model's prediction error, determining the average loss value. For prediction-based model assessment, the average loss of a prediction using the average indicator as a benchmark and the average loss of the linear model is compared. The average loss of PLS-SEM should be lower than the benchmark loss, indicated by a negative difference. The greater the negative value, the stronger the model's predictive ability compared to the benchmark.

The results of the model fit test using CV PAT analysis are shown as follow:

Table 9. PLS Predict Results

Variable	PLS Loss	LM Loss	Average Loss Difference
Discipline	1.219	1.311	-0.092
Performance	0.583	0.687	-0.104
Overall	0.901	0.999	-0.098

Source: Data Processing Results, 2024

Based on the CVPAT results, the average values, when compared between PLS loss and LM loss, are all negative. Thus, it can be concluded that the predictive ability of the PLS model is better.

5.6 Structural Equation Modelling (SEM) Analysis Direct Effect

The results of hypothesis testing for the direct effect of independent variables on dependent variables can be seen below.
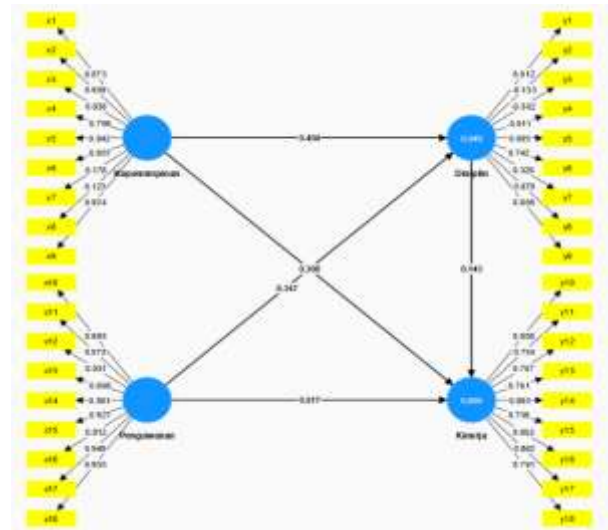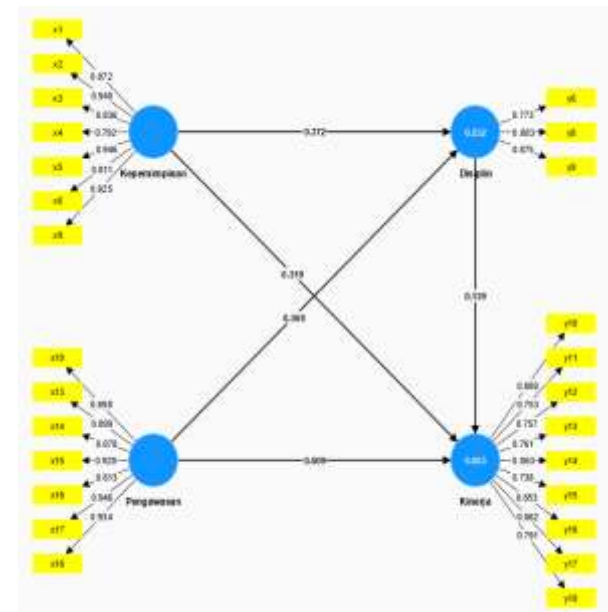

Figure 3. Full Model SEM

Figure 4. PLs Algoritm

The figures above (Figures 3 and 4) display the results of data processing and measurement using the SmartPLS SEM (Partial Least Square – Structural Equation Modeling) software, applied to the variables of performance, work discipline, leadership, and supervision.
It can be observed that:

a. The calculated t-value for the direct effect of leadership on discipline is 1.780, with a significance level as 0.075, while the alpha value is 0.05. Since the significance level is higher than the alpha value, it can be concluded that there is a positive but not statistically significant effect of leadership on the work discipline of employees at PT. Elnusa Tbk Project O&M TAP.

b. The calculated t-value for the direct effect of supervision on discipline is 1.719, with a significance level of 0.086, while the alpha value is 0.05. Since the significance level is higher than the alpha value, it can be concluded that there is a positive but not statistically significant effect of supervision on the work discipline of employees at PT. Elnusa Tbk Project O&M TAP.

Based on the table above, the first substructural model can be formulated as follows:

$$\eta_1 = 0{,}372\xi_1 + 0{,}368\xi_2$$

c. The calculated t-value for the direct effect of discipline on performance is 2.529, with a significance level of 0.011, while the alpha value is 0.05. Since the significance level is lower than the alpha value, it can be concluded that there is a positive and statistically significant effect of discipline on the performance of employees at PT. Elnusa Tbk Project O&M TAP.

d. The calculated t-value for the direct effect of leadership on performance is 2.766, with a significance level of 0.006, while the alpha value is 0.05. Since the significance level is lower than the alpha value, it can be concluded that there is a positive and statistically significant effect of leadership on the performance of employees at PT. Elnusa Tbk Project O&M TAP.

e. The calculated t-value for the direct effect of supervision on performance is 4.489, with a significance level of 0.000, while the alpha value is 0.05. Since the significance level is lower than the alpha value, it can be concluded that there is a positive and statistically significant effect of supervision on the performance of employees at PT. Elnusa Tbk Project O&M TAP.

Based on these tests, the second substructural equation model can be formulated as follows:

$$\eta_2 = 0{,}139\eta_1 + 0{,}319\xi_1 + 0{,}505\xi_2$$

5.7 Indirect Effects

The results of the indirect effect testing are shown in the following table:

Table 10. Results of Indirect Hypothesis Testing

Original Sample	T Statistics	P Values
Leadership -> Work Discipline -> Performance	0.052	1.330
Supervision -> Work Discipline -> Performance	0.051	1.432

Source: Primary data, processed in 2024

Based on the data above, the following conclusions can be drawn:

a. The t-value for the indirect effect of leadership on performance through discipline as a mediating variable is 1.330, with a significance level of 0.184, while the alpha value is 0.05. Since the significance level is higher than the alpha value, it can be concluded that there is a positive but not statistically significant effect of leadership on performance through work discipline among employees at PT. Elnusa Tbk Project O&M TAP.

b. The t-value for the indirect effect of supervision on performance through discipline as a mediating variable is 1.432, with a significance level of 0.152, while the alpha value is 0.05. Since the significance level is higher than the alpha value, it can be concluded that there is a positive but not statistically significant effect of supervision on performance through work discipline among employees at PT. Elnusa Tbk Project O&M TAP.

6. Conclusion

The leadership and supervision both have a positive but not statistically significant impact on employee work discipline at PT. Elnusa Tbk Project Operation & Maintenance Talang Akar Pendopo (TAP). However, leadership and supervision each have a direct positive and statistically significant effect on employee performance. While leadership indirectly influences performance in a positive but not significant way, work discipline does not mediate the effect of supervision on performance.

Also, work discipline has a positive and statistically significant effect on employee performance.

Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.
- **Conflict of interest:** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper
- **Acknowledgement:** The authors declare that they have nobody or no-company to acknowledge.
- **Author contributions:** The authors declare that they have equal right on this paper.
- **Funding information:** The authors declare that there is no funding to be acknowledged.
- **Data availability statement:** The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

References

[1] Afandi, P. (2016). Manajemen Sumber Daya Manusia, Teori, Konsep dan Indikator Cetakan ke-1. *Zanafa Publishing*.

[2] Agustini, F. (2019). Strategi Manajemen Sumber Daya Manusia. *UISU Press*.

[3] Alamsyah, R., et al. (2023). The Influence of Organizational Culture, Work Environment and Supervision on Employee Work Discipline with Work Motivation as a Mediating Variable at PT Bank Rakyat Indonesia (Persero) Tbk Soekarno Hatta Airport Branch Office. *American International Journal of Business Management*. 6(01);56-69.

[4] Areffudin, et al. (2023). The Effect of Leadership, Work Discipline and Motivation on Employee Performance (Study at PT. Kukar Sejahtera Dambaan Etam (Perseroda) Kutai Kertanegara Regency, East Kalimantan). *Asian Journal of Management Entrepreneurship and Social Science*. 3(03);935-953. https://doi.org/10.63922/ajmesc.v3i03.483

[5] Ariesa, Y., et al. (2020). Pengaruh Kompensasi, Pengawasan dan Disiplin Kerja Terhadap Kinerja Karyawan. *JMKSP*. 5(2).

[6] Bangun, R. (2023). The Effect Of Leadership, Organizational Behavior On Employee Performance, Work Discipline As Intervening Variable. *Jurnal Bening Prodi Manajemen Universitas Riau Kepulauan Batam*. 9(2). https://doi.org/10.33373/bening.v9i2.4580

[7] Bangun, R. B. (2021). Effect of leadership, work environment and supervision on work discipline. *International Journal of Economics and Business Applied*. 2(4).

[8] Basri, & Rivai. (2015). Manajemen Sumber Daya Manusia, Human Resources Management, Jilid 2. *Gunung Agung*.

[9] Bero, S., et al. (2022). Compensation and Supervision on Job Satisfaction through Work Discipline of Regional Contract Workers at the Regional General Hospital of Central Mamuju Regency. *IEOM Society International*.

[10] Bisri, M. F., et al. (2022). The Effect of Motivation and Supervision on Employee Work Discipline during the Implementation of Work from Home at the Medium Customs and Excise Office Type A Pasuruan. *International Journal of Social Sciences*. 5.

[11] Daulay, D., et al. (2017). Manajemen. *Lembaga Penelitian dan Penulisan Ilmiah Aqli*.

[12] Dewi, N. N. (2021). Pengaruh Motivasi, Disiplin Kerja dan Pengawasan Terhadap Kinerja. *AKSARA: Jurnal Ilmu Pendidikan Nonformal*. 7(02).

[13] Dewi, A. S. K., & Harjoyo, H. (2019). Pengaruh Budaya Organisasi terhadap Organizational Citizenship Behavior (OCB) dan Kinerja Karyawan. *Jurnal Manajemen dan Kewirausahaan*.

[14] Dharmawan, A. (2023). Pengaruh Kepemimpinan, Pengawasan, dan Disiplin Terhadap Kinerja Karyawan pada PT Sariwangi Mentari. *Prosiding: Ekonomi dan Bisnis*. 3(1).

[15] Edison, E., Anwar, Y., & Komariyah, I. (2018). Manajemen Sumber Daya Manusia. *CV. Alfabeta*.

[16] Sutrisno, E. (2016). Manajemen Sumber Daya Manusia. *Kencana Prenada Media Group*.

[17] Sutrisno, E. (2019). Manajemen Sumber Daya Manusia. *Prenada Media Group*.

[18] Effendi, U. (2014). Asas Manajemen. *Rajawali Pers*.

[19] Fahmi, I. (2014). Analisa Kinerja Keuangan. *Alfabeta*.

[20] Ghozali, I. (2016). Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23 (Edisi 8). *Badan Penerbit Universitas Diponegoro*.

[21] Ghozali, I., & Latan, H. (2020). Partial Least Squares: Konsep, Teknik, dan Aplikasi Menggunakan Program SmartPLS 3.0 (2nd ed.). *Badan Penerbit -Undip*.

[22] Gunarto, M. (2018). Analisis stastika dengan model persamaan structural (SEM) teori & praktis. *Alfabeta*.

[23] Hamali, A. Y. (2016). Pemahaman manajemen sumberdaya manusia. *Center for Academic Publishing Service*.

[24] Handoko, T. H. (2016). Manajemen. *BPFE*.

[25] Hardani, et al. (2020). Metode Penelitian Kualitatif & Kuantitatif. *CV Pustaka Ilmu*. https://www.researchgate.net/publication/340021548 _Buku_Metode_Penelitian_Kualitatif_Kuantitatif

[26] Harianto, et al. (2020). Pengaruh Pengawasan Kerja dan Disiplin Kerja Terhadap Kinerja Karyawan Pada PT Centric Powerindo di Kota Batam. *Jurnal EMBA*. 8(1).

[27] Hasibuan, H. M. (2019). Manajemen Sumberdaya Manusia. *Bumi Aksara*.

[28] Hasibuan, S. P. M. (2017). Manajemen Sumber Daya Manusia. *PT Bumi Aksara*.

[29] Hasyim, W. (2020). Kinerja Karyawan: Gaya Kepemimpinan, Pengawasan dan Disiplin Kerja. *Jurnal IKRA-ITH Ekonomika*. 3(1).

[30] Husain, A. S. (2015). Penelitian bisnis dan manajemen menggunakan partial least squares (PLS) dengan smart PLS 3.0. *Universitas Brawijaya*.

[31] Kasmir. (2016). Manajemen Sumber Daya Manusia (Teori dan Praktik). *PT. RajaGrafindo*.

[32] Lombok, A. S., et al. (2021). The Effect of Inherent Supervision and Work Environment on Employee Work Discipline at the Manado State University Head Office. *Technium Social Sciences Journal*. 21;158-166. https://doi.org/10.47577/tssj.v21i1.3870

[33] Mangkunegara, A. A. P. (2017). Manajemen Sumber Daya Manusia Perusahaan. *Remaja Rosdakarya*.

[34] Megantari, N. K. S., Mitarian, N. W. E., & IGA. (2022). Pengaruh Gaya Kepemimpinan dan Pengawasan Terhadap Kinerja Pegawai pada Kantor Badan Pertanahan Nasional di Kabupaten Klungkung. 3(12).

[35] Muabuay, et al. (2017). Effect of Leadership, Competency and Work Discipline on Employee Performance in Hospital of Jayapura Provinsi Papua. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*. 34(3);182–192. https://www.gssrr.org/index.php/JournalOfBasicAnd Applied/article/view/7786

[36] Mubarak, M., et al. (2022). Pengaruh motivasi, kepemimpinan, terhadap kinerja karyawan dengan komitmen organisasional karyawan sebagai mediasi. *Jurnal Manajemen*. 14(4).

[37] Nadeak, B. (2020). Manajemen Pelatihan dan Pengembangan. *UKI Press*.

[38] Sedarmayanti. (2017). Perencanaan dan Pengembangan SDM untuk Meningkatkan Kompetensi, Kinerja dan Produktivitas Kerja. *PT Refika Aditama*.

[39] Siagian, S. (2014). Manajemen Sumber Daya Manusia. Retrieved from https://books.google.co.id.

[40] Sinambela, L. P. (2019). Manajemen Sumber Daya Manusia. *Bumi Aksara*.

[41] Sinungan. (2015). Perilaku Organisasi. Edisi Bahasa Indonesia Jilid I. *PT. Indeks Kelompok Gramedia*.

[42] Sugiyono. (2019). Metodelogi Penelitian Kuantitatif dan Kualitatif Dan R&D. *ALFABETA*.

[43] Sugiyono. (2020). Metodelogi Penelitian Kuantitatif dan Kualitatif Dan R&D. *Alfabeta*.

[44] Sutrisno, E. (2019). Manajemen Sumber Daya Manusia. *Prananda Media Group*.

[45] Sutanjar, T., et al. (2019). Pengaruh Motivasi, Kepemimpinan dan Disiplin Pegawai Terhadap Kinerja Pegawai. *Journal of Management Review*. 3(2).

[46] Taryaman, E. (2016). Manajemen Sumber Daya Manusia. *CV Budi*.

[47] Usman, H. (2013). Manajemen; Teori, Praktik dan Riset Pendidikan. *Bumi Aksara*.

[48] Wibowo. (2018). Manajemen Kinerja, Edisi 5 Cetakan ke sepuluh. *Rajagrafindo Persada*.