

The Influence Of Leadership And Organizational Culture On Operational Efficiency Through Work Discipline at PT. Ekadharma International Tbk

Original Article

Efrianza^{1*}, Sutoyo², Koen Irianto Uripan³, Sutomo⁴, Immanuel Ustradi Osijo⁵

¹⁻⁵Master of Management, Sekolah Tinggi Ilmu Ekonomi Artha Bodhi Iswara, Indonesia

Email: ^{1*}efrianzaa@gmail.com

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Abstract

This study aims to analyze the influence of leadership and organizational culture on operational efficiency through work discipline at PT Ekadharma International Tbk. Operational efficiency is an important factor in improving the company's competitiveness, which is influenced by leadership quality, organizational cultural values, and employee work discipline levels. This study uses a quantitative approach with a survey method. Data was collected through the distribution of questionnaires to employees of PT Ekadharma International Tbk, who were used as research respondents. The data analysis techniques used are descriptive statistical analysis and path analysis to test the direct and indirect influence between variables. The results of the study show that leadership and organizational culture have a positive and significant effect on work discipline. Furthermore, work discipline has a positive and significant effect on operational efficiency. In addition, leadership and organizational culture also indirectly affect operational efficiency through work discipline as an intervening variable. Based on the results of the study, it can be concluded that increasing the company's operational efficiency can be achieved through the implementation of effective leadership, strengthening a positive organizational culture, and improving employee work discipline. This research is expected to contribute to company management in formulating more effective human resource policies.

Keywords: Leadership, Organizational Culture, Work Discipline, Operational Efficiency.

1. Introduction

The manufacturing industry is a strategic sector in the national economy because it contributes greatly to the creation of added value, labor absorption, and exports. Data from the Central Statistics Agency (2023) shows that the processing industry contributes around 18.67% to Indonesia's non-oil and gas GDP. In addition, the Ministry of Industry (2024) noted that this sector absorbs more than 18 million workers and accounts for around 74.5% of total national exports. However, global dynamics and the acceleration of technological transformation in the industrial era 4.0 require manufacturing companies to improve operational efficiency to remain competitive.

Operational efficiency is a crucial issue because it is directly related to productivity, production timeliness, and output quality. A Deloitte study (2023) revealed that most of the loss of productive working hours in the Southeast Asian manufacturing sector is due to human factors, such as low compliance with SOPs, delays, work fatigue, and human error. This is



strengthened by a survey by the Ministry of Industry (2022), which states that more than 57% of manufacturing companies in Indonesia have experienced a decrease in efficiency due to human resource factors, especially work discipline. In this context, work discipline is a key factor in supporting operational efficiency. Discipline reflects compliance with rules, punctuality, and responsibility in carrying out duties. Suharjono (2022) called discipline the *prima causa* in organizational success, while Najarudin (2024) found that work discipline has a strong positive relationship with productivity and work efficiency. However, the formation of work discipline is inseparable from the role of leadership and organizational culture.

Transformational leadership is believed to be able to increase employee motivation and performance through vision, inspiration, and empowerment (Bass & Riggio, 2019). In the manufacturing sector, this leadership style plays a role in encouraging compliance with procedures and increasing employee engagement. Research by Susanti et al. (2023) and Hajrah (2023) shows that transformational leadership has a significant effect on employee performance and productivity. On the other hand, a strong organizational culture also serves as a guideline for work behavior that shapes habits of discipline, communication, and collaboration (Schein, 2017). However, various studies have shown inconsistencies in research results related to the relationship between leadership, organizational culture, and performance. Some studies found significant influences, while others showed weak or indirect influences. This indicates that there are intermediate variables that have not been studied in depth. Work discipline is thought to be a mediating factor that bridges the influence of leadership and organizational culture on operational efficiency, but research specifically examining this relationship is still limited, especially in the context of post-pandemic Indonesian manufacturing.

PT Ekadharma International Tbk, as an adhesive packaging manufacturing company, faces operational efficiency challenges, such as production delays, machine idle time, and non-compliance with SOPs. This condition shows the gap between organizational values and implementation at the employee level, which indicates the importance of work discipline as a link between leadership, organizational culture, and operational efficiency. Based on this description, this study aims to analyze the influence of leadership and organizational culture on operational efficiency with work discipline as a mediating variable. This research is expected to make a theoretical contribution in the development of organizational behavior models, as well as practical contributions for companies in sustainably improving operational efficiency.

Based on this background, this research is focused on answering several key questions, namely:

- 1) How does transformational leadership affect employee work discipline in manufacturing companies in Indonesia?
- 2) How does organizational culture affect employee work discipline in manufacturing companies in Indonesia?
- 3) How does transformational leadership affect operational efficiency in manufacturing companies in Indonesia?
- 4) How does organizational culture affect operational efficiency in manufacturing companies in Indonesia?
- 5) Does work discipline play a mediating variable in the relationship between transformational leadership and operational efficiency in manufacturing companies in Indonesia?
- 6) Does work discipline play a mediating role in the relationship between organizational culture and operational efficiency in manufacturing companies in Indonesia?

2. Literature Review

2.1. Leadership

Leadership is the ability of individuals to influence, direct, and coordinate the behavior of organizational members to achieve predetermined goals. In the context of modern organizations, transformational leadership is a widely used approach because it emphasizes inspiration, long-term vision, and employee empowerment. Bass and Riggio (2019) explain that transformational leaders are able to increase the awareness and commitment of subordinates through four main dimensions, namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. This approach is considered relevant in a manufacturing environment that requires precision, high coordination, and adaptation to technological changes (Dipoatmodjo et al., 2025).

A number of empirical studies show that transformational leadership has a significant influence on employee performance and work behavior. Susanti et al. (2023) and Amaral et al. (2025) found that transformational leadership contributes positively to improving employee performance through increased motivation and work engagement. In addition, research by Hajrah (2023) shows that effective leadership is able to encourage productivity and adherence to work procedures. Thus, leadership not only plays a role in directing work but also forms disciplined attitudes and behaviors that are the basis for achieving operational efficiency.

2.2. Organizational Culture

Organizational culture is a system of basic values, norms, beliefs, and assumptions that are shared by members of the organization and become a guideline for action. According to Schein (2017), organizational culture is formed through the process of collective learning in dealing with internal and external problems, which are then passed on to new members as the correct way of thinking and acting. A strong culture will create behavioral alignment, increase commitment, and build a clear organizational identity. In the context of manufacturing, organizational culture plays an important role in maintaining the consistency of work processes and product quality (Azhari et al., 2026).

Research shows that organizational culture has a significant influence on employee work behavior and productivity. Wijaya and Arifin (2021) found that an organizational culture that supports open communication and teamwork can significantly improve employee performance. Meanwhile, Nurhasanah (2022) and Riu (2024) stated that a weak organizational culture can reduce work discipline and hinder the achievement of organizational goals. Work culture, such as the application of 5R principles and effective communication, has been proven to be able to create a more orderly and efficient work environment, thus contributing to improving the company's operational efficiency.

2.3. Work Discipline

Work discipline is the attitude and behavior of employees in complying with the rules, standards, and procedures that apply in the organization. Discipline reflects the individual's level of awareness and willingness to carry out tasks in accordance with the stipulated provisions. According to Suharjono (2022), work discipline is the main factor (*prima causa*) in the success of the organization because without discipline, the work system will not run effectively and efficiently. Work discipline includes aspects of punctuality, compliance with SOPs, responsibility, and consistency in the implementation of tasks.

Empirically, work discipline has been shown to have a strong relationship with operational performance and efficiency. Najarudin (2024) and Uripan et al. (2025) found that

a high level of discipline contributes significantly to increasing work productivity and reducing operational errors. In addition, research by Susanti et al. (2023) shows that work discipline can play a role as a mediating variable between leadership and organizational performance. This shows that even if the leadership and organizational culture are good, without the support of high work discipline, optimal operational results are difficult to achieve.

2.4. Operational Efficiency

Operational efficiency is the ability of an organization to utilize resources optimally to produce maximum output at minimal cost and time. In the manufacturing sector, operational efficiency is closely related to the productivity of the production line, the use of working time, and the minimization of waste. Heizer and Render (2020) explain that operational efficiency can be measured through indicators such as production timeliness, machine utilization rates, and the quality of the products produced. Efficiency is the key to a company's competitiveness, especially in the face of global pressures and market demands.

Various studies show that operational efficiency is not only influenced by technological factors, but also by human and organizational factors. Rahman (2022) and Burhanuddin et al. (2025) stated that operational efficiency will increase if supported by a strong work culture and employee disciplined behavior. In addition, Hajrah's research (2023) shows that leadership and work discipline simultaneously affect improving operational performance. Thus, operational efficiency is the result of the synergy between effective leadership, a strong organizational culture, and a high level of work discipline.

2.5. Conceptual Framework

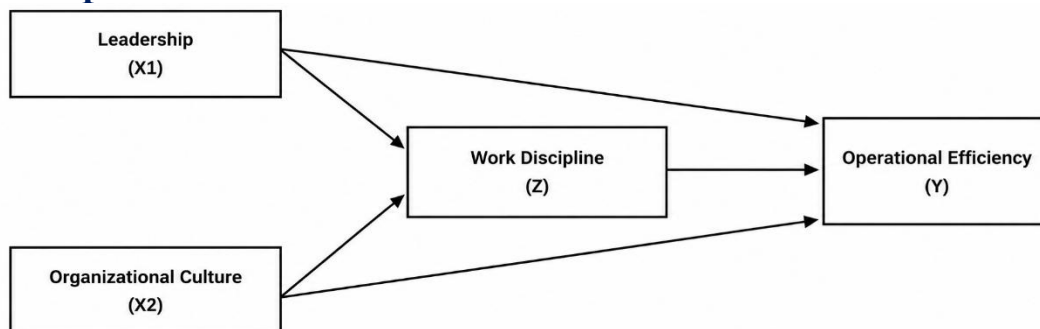


Figure 1. Conceptual Framework

2.6. Hypothesis

- H1: Leadership has a positive and significant effect on work discipline.
- H2: Organizational culture has a positive and significant effect on work discipline.
- H3: Leadership has a positive and significant effect on operational efficiency.
- H4: Organizational culture has a positive and significant effect on operational efficiency.
- H5: Work discipline has a positive and significant effect on operational efficiency.
- H6: Leadership has a positive and significant effect on operational efficiency through work discipline.
- H7: Organizational culture has a positive and significant effect on operational efficiency through work discipline.

3. Methods

This study explains that the research uses a quantitative approach with the type of explanatory research, which aims to test and explain the causal relationship between variables, namely leadership, organizational culture, work discipline, and operational efficiency. The research population is all employees in a manufacturing company, with a sampling technique using simple random sampling because the population is considered homogeneous. The number of samples was determined using the Lemeshow formula with a confidence level of 90% and a margin of error of 10%. The data used consisted of primary data obtained through a questionnaire based on the Likert scale of 1–5, as well as secondary data derived from literature, reports, and other supporting documents. The data collection technique was carried out through the dissemination of online questionnaires and literature studies to strengthen the theoretical foundation of the research.

Furthermore, the data analysis in this study uses the Structural Equation Model (SEM) method based on Partial Least Square (PLS) with the help of SmartPLS 3.3.3 software. The analysis stage includes an external model evaluation to test the validity and reliability of the instrument through indicators such as loading factor, AVE, composite reliability, and Cronbach's alpha, as well as an internal model evaluation to see the strength of the relationship between variables through R^2 , Q^2 , and GoF values. Hypothesis testing was carried out using the bootstrapping technique to see the significance of the direct and indirect relationships between variables. In addition, this study also examines the role of work discipline as a mediating variable by looking at specific indirect effects and comparing models with and without mediation variables to determine whether mediation is partial, full, or nonexistent. This approach allows for a comprehensive analysis of structural relationships in the research model.

4. Results and Discussion

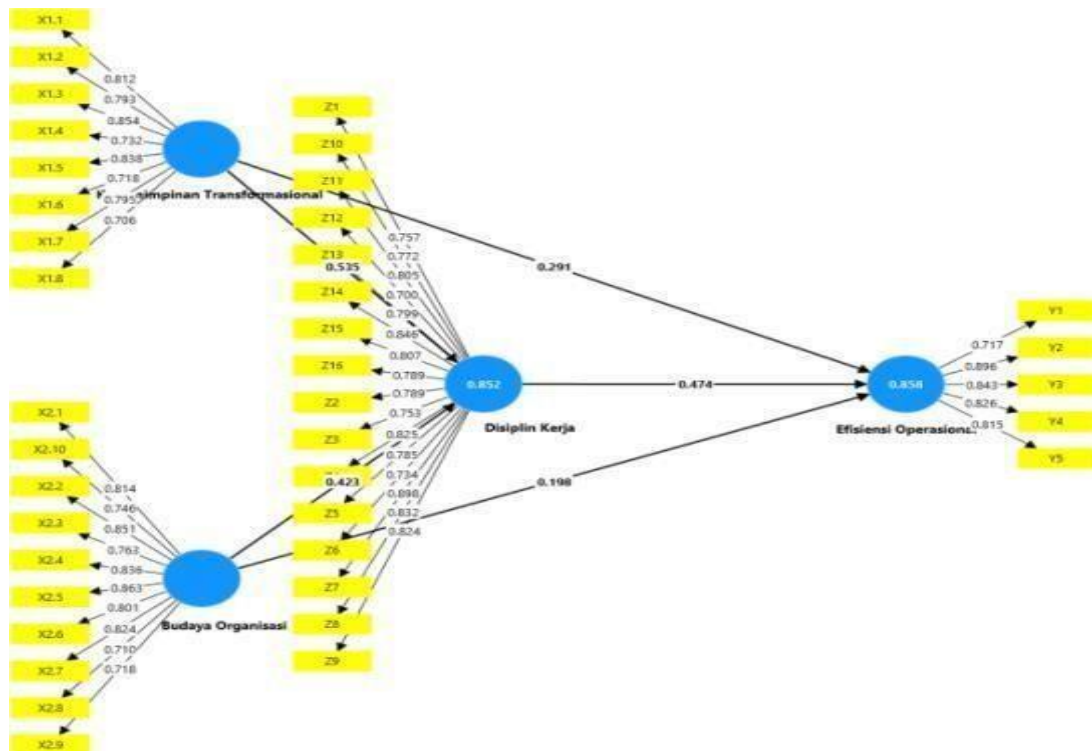


Figure 2. SEM-PLS Result

The results of data analysis were carried out using Partial Least Squares–Structural Equation Modeling (PLS-SEM) to test the direct and indirect influence of mediation. Below is a table of the results of the analysis along with their explanations.

4.1. Evaluation of Measurement Models (Outer Model)

Table 1 shows the loading value and validity of each indicator used in this study.

Variable	Indicator	Loading	Signs	Limits	Test Results
		Factor			
Transformational Leadership	X1.1	0.812	>	0.70	Valid
	X1.2	0.793	>	0.70	Valid
	X1.3	0.854	>	0.70	Valid
	X1.4	0.732	>	0.70	Valid
	X1.5	0.838	>	0.70	Valid
	X1.6	0.718	>	0.70	Valid
	X1.7	0.795	>	0.70	Valid
	X1.8	0.706	>	0.70	Valid
Organizational Culture	X2.1	0.814	>	0.70	Valid
	X2.2	0.851	>	0.70	Valid
	X2.3	0.763	>	0.70	Valid
	X2.4	0.836	>	0.70	Valid
	X2.5	0.863	>	0.70	Valid
	X2.6	0.801	>	0.70	Valid
	X2.7	0.824	>	0.70	Valid
	X2.8	0.710	>	0.70	Valid
	X2.9	0.718	>	0.70	Valid
	X2.10	0.746	>	0.70	Valid
Work Discipline	Z1	0.757	>	0.70	Valid
	Z2	0.789	>	0.70	Valid
	Z3	0.753	>	0.70	Valid
	Z4	0.825	>	0.70	Valid
	Z5	0.784	>	0.70	Valid
	Z6	0.734	>	0.70	Valid
	Z7	0.898	>	0.70	Valid

All indicators show an Outer Loading value above 0.70, indicating that they have excellent convergent validity and are reliable in measuring the construct in question.

4.2. Construct Reliability Testing

Table 2 shows the results of the reliability test using Cronbach's Alpha and Composite Reliability.

Variable	AVE	Cronbach's Alpha	Composite Reliability	Test Results
Organizational Culture	0.631	0.934	0.937	Valid and reliable
Work Discipline	0.634	0.961	0.962	Valid and reliable
Operational Efficiency	0.675			Valid and reliable

		0.878	0.883	
Leadership	0.613	0.909	0.915	Valid and reliable

Transformational

All constructs have Cronbach's Alpha and Composite Reliability values above 0.70, which indicates an excellent level of internal consistency. This indicates that the research instrument can be relied upon to measure the desired construct.

4.3. Evaluation of Structural Models (Inner Model)

Table 3 shows the results of the R² test.

Variable	R Square	Adjusted R-Square
Work Discipline	0.852	0.850
Operational Efficiency	0.858	0.854

The R Square value shows that the work discipline variable has a determination coefficient of 0.852 (Adjusted R Square 0.850), which means that about 85.0% of the variation in work discipline can be explained by leadership variables and organizational culture, while the remaining 15.0% is influenced by other factors outside the model. Meanwhile, operational efficiency has an R Square value of 0.858 (Adjusted R Square 0.854), which indicates that 85.4% of the variation in operational efficiency can be explained by leadership, organizational culture, and work discipline as mediating variables. Based on the evaluation criteria of the PLS model, the two R-squared values fall within the strong category, indicating that the research model has high explanatory power and is able to predict the relationship between variables effectively.

4.4. Significance and Direct Impact Test

Table 4 presents the results of the significance test of direct and indirect influences between variables.

Variable	Original	T Count	P-Value
Sample			
The Influence of Transformational Leadership on Operational Efficiency	0.291	1.970	0.049
The Influence of Work Discipline to Operational Efficiency	0.474	3.073	0.002
The Influence of Organizational Culture	0.198	2.138	0.033
Variable	Original	T Count	P-Value
Sample			
to Operational Efficiency Leadership Influence Transformational to Work Discipline	0.535	3.563	0.000
The Influence of Organizational Culture	0.423	2.916	0.004
On Work Discipline Leadership	0.254	2.572	0.010
Transformational towards Operational Efficiency through Work Discipline			

Organizational Culture towards Operational Efficiency through Work Discipline	0.200	2.056	0.040
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The results of the hypothesis test showed that all relationships between variables in the research model were statistically significant.

H1: The Influence of Transformational Leadership on Operational Efficiency

The test results showed a coefficient value of 0.291 with a T calculation of 1.970 and a P-Value of 0.049 (<0.05). This shows that transformational leadership has a positive and significant effect on operational efficiency. This means that the better the implementation of transformational leadership, the company's operational efficiency will increase. Although the T-value of the calculation is at the minimum limit of significance, this influence remains relevant in supporting the improvement of operational performance.

H2: The Effect of Work Discipline on Operational Efficiency

The coefficient value of 0.474 with a T count of 3.073 and a P-Value of 0.002 (<0.05) shows that work discipline has a positive and significant effect on operational efficiency. This means that work discipline has a strong influence on improving operational efficiency. The higher the level of employee discipline, the more optimal the use of time, resources, and production processes in the organization.

H3: The Influence of Organizational Culture on Operational Efficiency

The results of the analysis showed a coefficient value of 0.198 with a T calculation of 2.138 and a P-Value of 0.033 (<0.05), which means that organizational culture has a positive and significant effect on operational efficiency. This shows that good values, norms, and work habits in the organization are able to encourage an increase in the efficiency of work processes, even though the effect is relatively small compared to other variables.

H4: The Influence of Transformational Leadership on Work Discipline

The value of the coefficient of 0.535 with a T count of 3.563 and a P-Value of 0.000 (<0.05) shows that transformational leadership has a positive and significant effect on work discipline. This means that leaders who are able to provide examples, motivation, and attention to employees can increase the level of discipline at work.

H5: The Influence of Organizational Culture on Work Discipline

The test results showed a coefficient value of 0.423 with a T-count of 2.916 and a P-value of 0.004 (<0.05), indicating that organizational culture has a positive and significant effect on work discipline. This shows that a strong organizational culture can shape disciplined work behavior through the internalization of values and norms in the organization.

H6: The Influence of Transformational Leadership on Operational Efficiency through Work Discipline

The coefficient value of 0.254 with a T count of 2.572 and a P-Value of 0.010 (<0.05) shows that work discipline is able to mediate the influence of transformational leadership on operational efficiency significantly. This means that leadership not only has a direct effect but also indirectly improves employee work discipline.

H7: The Influence of Organizational Culture on Operational Efficiency through Work Discipline

The results showed a coefficient value of 0.200 with a T count of 2.056 and a P-Value of 0.040 (<0.05), which means that work discipline also plays a role as a mediating variable in the relationship between organizational culture and operational efficiency. Thus, a good organizational culture will improve work discipline, which ultimately has an impact on improving operational efficiency.

4.5. Discussion

H1: The Influence of Transformational Leadership on Operational Efficiency

The results of the study show that transformational leadership has a positive and significant effect on operational efficiency. This indicates that the stronger the leader in providing clear vision, inspiration, and direction, the better the efficiency of the operational process produced. Transformational leadership is able to create clarity of work objectives, improve coordination, and encourage employee involvement in achieving production targets more effectively.

However, the relatively moderate magnitude of influence suggests that leadership is not the only factor that directly determines operational efficiency. This indicates that leadership influence tends to work through other mechanisms, such as the formation of employee work behavior. In other words, good leadership will have a more optimal impact when it can encourage behavior change, especially in improving work discipline as the main operational factor.

H2: The Effect of Work Discipline on Operational Efficiency

Work discipline has been proven to have the strongest influence on operational efficiency compared to other variables. This shows that aspects of employee behavior, such as punctuality, compliance with SOPs, and responsibility in carrying out duties, are the main factors in determining the success of operational processes. Disciplined employees can minimize work errors, reduce wasted time, and maintain consistency in production quality.

These findings confirm that operational efficiency in manufacturing companies is not only dependent on systems and technology, but is heavily influenced by the consistency of individual behavior. Work discipline is the main foundation in ensuring that each process runs according to standards, so that the output produced is more optimal. Therefore, improving work discipline is the most effective strategy in sustainably encouraging operational efficiency.

H3: The Influence of Organizational Culture on Operational Efficiency

Organizational culture shows a positive and significant influence on operational efficiency, although its contribution is relatively small compared to other variables. This indicates that the values, norms, and work habits applied in the organization are able to create a work environment that supports efficiency. A culture that emphasizes quality, cooperation, and responsibility will shape a more structured and productive work pattern.

However, the influence of organizational culture tends to be indirect and takes time to internalize in employee behavior. This shows that organizational culture does not necessarily improve efficiency, but rather works through the formation of consistent work habits and attitudes. Thus, the success of an organizational culture in improving efficiency is highly dependent on real implementation in daily work activities.

H4: The Influence of Transformational Leadership on Work Discipline

Transformational leadership has been proven to have a positive and significant effect on work discipline. This shows that leaders who are able to provide examples, motivation, and attention to employee needs can encourage the formation of disciplined behavior. A leader who is consistent in implementing rules and showing commitment to work standards will set an example for employees in carrying out their duties in an orderly manner.

In addition, transformational leadership is also able to increase employees' intrinsic awareness of the importance of work discipline. Through clear vision communication and a

supportive approach, employees not only obey the rules out of obligation, but also out of personal awareness and responsibility. This makes work discipline more sustainable and does not depend on supervision alone.

H5: The Influence of Organizational Culture on Work Discipline

Organizational culture has a positive and significant influence on work discipline. This shows that the values and norms applied in the organization play an important role in shaping employee work behavior. A culture that emphasizes compliance, responsibility, and work ethics will encourage employees to work more orderly and in accordance with applicable rules.

On the other hand, organizational culture also serves as a social control mechanism that directs individual behavior within the organization. When discipline values have become part of the work culture, then employees will tend to maintain their behavior consistently without the need for strict supervision. This shows that a strong organizational culture can be the main foundation for building sustainable work discipline.

H6: The Influence of Transformational Leadership on Operational Efficiency through Work Discipline

The results of the study show that work discipline is able to mediate the influence of transformational leadership on operational efficiency. This indicates that leadership not only has a direct effect, but also through the formation of employee disciplined behavior. Effective leaders will create a work environment that encourages employees to work more orderly and responsibly.

The partial nature of mediation shows that leadership has two paths of influence on efficiency, namely directly and indirectly through work discipline. Thus, the role of leadership becomes increasingly strategic because it not only affects the results of work but also the work process. This reinforces the importance of leadership in building an efficient work system through strengthening employee behavior.

H7: The Influence of Organizational Culture on Operational Efficiency through Work Discipline

Work discipline has also been shown to mediate the influence of organizational culture on operational efficiency. This shows that organizational culture influences efficiency not only directly, but also through the formation of employee disciplined behavior. A strong culture will encourage the internalization of work values, which are then reflected in daily disciplined behavior.

The partial mediation that occurred showed that organizational culture has a dual role, namely as a direct factor in creating an efficient work environment and as an indirect factor through the formation of work discipline. Thus, strengthening a consistent and targeted organizational culture will have a more optimal impact on improving the company's operational efficiency.

5. Conclusion

Based on the results of the research, it can be concluded that transformational leadership and organizational culture have a positive and significant influence on operational efficiency, both directly and indirectly through work discipline. Work discipline has proven to be the most dominant variable in influencing operational efficiency, so it can be said to be a key factor in improving the company's operational performance. In addition, transformational leadership and organizational culture also have a significant effect on work discipline, which shows that employee behavior is inseparable from the leader's role and the values of the organization that are applied. The results of this study also confirm that work discipline plays a role as a partial mediating variable, which bridges the influence of leadership and organizational culture on operational efficiency. Thus, the improvement of operational efficiency does not only depend on structural or technological aspects, but is also highly determined by the quality of leadership, the strength of the organizational culture, and the consistency of employee work discipline in carrying out tasks.

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