

Enhancing Employee Productivity: The Mediating Role of Work Discipline in Work Environment and Compensation Strategies

¹Elis Sujimah*, ¹Musoli

Corresponding Author: *elissujimah02@gmail.com

¹ Universitas 'Aisyiyah Yogyakarta, Yogyakarta, Indonesia

ARTICLE INFO

ABSTRACT

Article history

Received 15 September 2024

Revised 30 October 2025

Accepted 11 April 2025

Achieving organizational goals requires competent human resources, where employee productivity serves as a key performance indicator. High productivity reflects efficient and effective work, influenced by factors such as the work environment, compensation, and work discipline. This study investigates the mediating role of work discipline in the relationship between work environment, compensation, and employee productivity. Using a quantitative approach, the research surveyed all 90 employees of the Public Works, Housing, and Settlement Areas Department in Bantul Regency through a census sampling method. Data collected via questionnaires were analyzed using SPSS 25. Results revealed that both the work environment and compensation significantly enhance work productivity. Furthermore, these factors positively influence work discipline, which itself has a significant impact on productivity. Critically, work discipline mediates the effects of the work environment and compensation on productivity. The study confirms all hypotheses, highlighting the importance of fostering a supportive work environment, fair compensation, and strong work discipline to optimize employee performance. These findings offer practical insights for organizational strategies aimed at boosting productivity through integrated human resource management.

Keywords

Compensation
Work Discipline
Work Environment
Work Productivity

This is an open-access article under the [CC-BY-SA](#) license.



Introduction

The establishment of any successful organization depends on its ability to maintain sustainable growth and achieve high workforce productivity [1]. Human resources serve as the most critical organizational asset, with effective human resource management being essential for achieving corporate objectives [2]. In today's competitive environment, organizations must continuously optimize their workforce capabilities to enhance performance and maintain operational excellence [3].

The quality of human resources directly determines organizational outcomes, with employee productivity serving as a key performance indicator [4]. Highly productive employees not only demonstrate efficient task completion but also contribute to positive organizational culture - a particularly crucial factor in public sector institutions [5]. Modern human resource management emphasizes the importance of developing and maintaining a competent, satisfied workforce through strategic HR practices [6].

Multiple factors influence employee productivity, including both internal and external elements such as motivation, work environment, compensation, and work discipline [7]. Research indicates that a supportive work environment significantly enhances employee performance and job satisfaction [8], while equitable compensation systems serve as powerful motivators for sustained productivity [9]. Furthermore, work discipline has been identified as a critical mediating variable that strengthens the relationship between organizational policies and productivity outcomes [10].

This study examines the impact of work environment and compensation on employee productivity at the Public Works, Housing and Settlement Areas Office of Bantul Regency, with work discipline as a mediating variable. The research aims to provide empirical evidence on how strategic human resource interventions can enhance organizational performance through improved productivity metrics.

Fig. 1 shows the proposed conceptual model that was examined in this study. Some references are used to support the rationale.

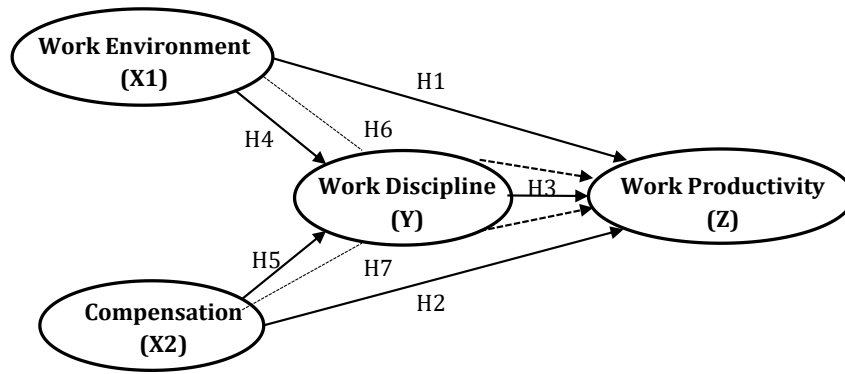


Fig. 1. The proposed conceptual model

A. Hypothesis

1. Work environment on work productivity.

The work environment has a significant effect on work productivity [23]. While in other journals it is concluded that the work environment has a positive and significant effect on work productivity [13]. Based on the description above, the hypothesis in this study can be formulated as follows:

H1: It is suspected that the work environment affects the work productivity of employees of the Public Works & Housing Office of Bantul Regency.

2. Compensation to work productivity

The compensation variable has a positive and significant effect on the work productivity of employees of the Padang City Market Office [5]. Meanwhile, another journal shows that compensation partially affects employee productivity at the Bima Regency Social Service [8]. Based on the description above, the hypothesis in this study can be formulated as follows:

H2: It is suspected that compensation affects the work productivity of employees of the Public Works & Housing Office of Bantul Regency.

3. Work environment on work discipline

There is a very strong and significant influence between the work environment and work discipline [9]. Meanwhile, in another journal it was concluded that the physical work environment has a positive and significant effect on employee work discipline [1]. Based on the description above, the hypothesis in this study can be formulated as follows:

H3: It is suspected that the work environment affects the work discipline of employees of the Public Works & Housing Office of Bantul Regency.

4. Compensation on work discipline

Compensation has a positive and significant effect on employee work discipline [2]. Meanwhile, another journal shows that compensation has a positive effect on work discipline [10]. Based on the description above, the hypothesis in this study can be formulated as follows:

H4: It is suspected that compensation affects the work discipline of employees of the Public Works & Housing Office of Bantul Regency.

5. Work discipline on productivity

Work discipline partially has a significant effect on employee productivity at the Banda Aceh City Public Works and Spatial Planning Office [20]. While in other journals it is concluded that there is a significant and partial influence on Work Discipline on Employee Productivity at the Public Works Office (PU) of Bima Regency [3]. Based on the description above, the hypothesis in this study can be formulated as follows:

H5: It is suspected that work discipline affects the work productivity of employees of the Public Works & Housing Office of Bantul Regency.

6. Work discipline mediates the work environment on work productivity

The journal concluded that work discipline is able to mediate the influence of the work environment on employee work productivity [24]. Based on the description above, the hypothesis in this study can be formulated as follows:

H6: It is suspected that work discipline mediates the effect of work environment on employee productivity at the Public Works & Housing Office of Bantul Regency.

7. Work discipline mediates compensation on work productivity

The journal concluded that compensation has a positive and significant effect on employee productivity through work discipline [15]. Based on the description above, the hypothesis in this study can be formulated as follows:

H7: It is suspected that work discipline mediates the effect of compensation on employee productivity at the Public Works & Housing Office of Bantul Regency.

Material and Methods

This research uses a quantitative approach, where the data used is primary data. In this study, primary data was collected by distributing questionnaires. A questionnaire is a data collection method that asks respondents to provide a series of questions or written responses. To measure respondents' perceptions, a Likert scale was used in this study. Population generally refers to an area consisting of objects that have certain characteristics or characteristics determined by the researcher to be studied, then a conclusion is made. In this study, the population was all employees of the Public Works Office of Housing and Settlement

Areas of Bantul Regency, totaling 90 people. Meanwhile, the sample is part of the population to be studied. In this study, the sampling technique used was a census or saturated sample. Saturated sample is a sampling technique if all members of the population are used as samples.

Results

A. Normality Test

In this study, the normality test was used with the Kolmogrov-Smirnov method. According to [6] the data can be said to be normally distributed if the probability number is greater than 0.05. In the normality test using the Kolmogrov-Smirnov method, the probability number can be seen in the Asymp Sig (2-tailed) value. From the test results it can be seen that the Asymp.Sig (2-tailed) value is 0.200. Which means that the significance value is greater than 0.05. So it can be interpreted that the data used is normally distributed.

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		32
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.81612528
Most Extreme Differences	Absolute	.103
	Positive	.092
	Negative	-.103
Test Statistic		.103
Asymp. Sig. (2-tailed)		.200 ^{c,d}

B. Multicollinearity Test

To see whether there is multicollinearity can be seen from the tolerance and VIF values. According to [6] if the tolerance value is greater than 0.10 and the VIF value is less than 10.0, the regression model is said to be free of multicollinearity. From the research results, it can be seen that the tolerance value of the independent variables in this study is 0.473 for the work environment variable and 0.359 for the compensation variable. While the VIF value for the work environment variable is 2.112 and 2.782 for the compensation variable. Which means that the tolerance value is greater than 0.10 and the VIF value is less than 10.0. This shows that there are no multicollinearity symptoms in this study.

Table 2. Multicollinearity Test Results

Coefficients ^a		
Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Work Environment	.473	2.112
Compensation	.359	2.782
Work Discipline	.547	1.828

C. Heteroscedasticity Test

The heteroscedasticity test in this study uses the Glesger test method. To see the symptoms of heteroscedasticity can be seen from the significance value, according to [6] if the significance value is greater than 0.05 then there are no symptoms of heteroscedasticity. From the results of the study it can be seen that the significance value of the independent variables in this study is 0.057 for the work environment variable and 0.164 for the compensation variable. Which means that the significance value of the independent variable is greater than 0.05. This shows that there are no symptoms of heteroscedasticity in this study.

Table 3. Heteroscedasticity Test Results

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.618	1.931		-.320	.751
Work Environment	.131	.066	.517	1.982	.057
Compensation	-.103	.072	-.428	-1.428	.164
Work Discipline	-.004	.058	-.017	-.069	.946

D. T-test

The significance level used is 0.05. Hypothesis acceptance criteria according to [6] if $t_{count} > t_{table}$ and significance value < 0.05 then H_0 is rejected and H_a is accepted. See Table 4 and Table 5.

Table 4. T-test Results (Dependent Variable: Work Productivity)

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.212	5.877		3.099	.004
	Work Environment	.338	.148	.386	2.290	.029
	Compensation	.565	.112	.678	5.054	<.001
	Work Discipline	.723	.075	.870	9.687	<.001
a. Dependent Variable: Work Productivity						

Table 5. T-test Results (Dependent Variable: Work Discipline)

Model	Coefficients ^a			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
1 (Constant)	13.491	6.447		2.093	.045
Work Environment	.571	.162	.541	3.526	.001
Compensation	.683	.134	.682	5.103	<.001
a. Dependent Variable: Work Discipline					

The following are the results of the T test:

1. Work environment on work productivity

A significance value of 0.029 was obtained, so the significance value <0.05 . While the calculated t value obtained is 2.290 and the t table value is 2.042, so the calculated t value $>$ t table is $2.290 > 2.042$. Which means that the work environment variable has a positive and significant effect on the work productivity variable.

2. Compensation on work productivity

The significance value obtained is 0.001, so the significance value <0.05 . While the calculated t value obtained is 5.054 and the t table value is 2.042, so the calculated t value $>$ t table is $5.054 > 2.042$. Which means that the compensation variable has a positive and significant effect on the work productivity variable.

3. Work discipline on work productivity

The significance value obtained is 0.001, so the significance value <0.05 . While the t value obtained is 9.687 and the t table value is 2.042, so the t value $>$ t table is $9.687 > 2.042$. Which means that the work discipline variable has a positive and significant effect on the work productivity variable.

4. Work environment on work discipline

A significance value of 0.001 was obtained, so the significance value <0.05 . While the t value obtained is 3.526 and the t table value is 2.042. So that the value of t count $>$ t table is $3.526 > 2.042$. Which means that the work environment variable has a positive and significant effect on the work discipline variable.

5. Compensation on work discipline

A significance value of 0.001 was obtained, so the significance value <0.05 . While the t value obtained is 5.103 and the t table value is 2.042. So that the value of t count $>$ t table is $5.103 > 2.042$. Which means that the compensation variable has a positive and significant effect on the work discipline variable.

E. Test Coefficient of Determination (R²)

The results of the coefficient of determination test obtained an Adjusted R Square value of 0.816, which indicates that the work environment, compensation and work discipline variables can explain the work productivity variable by 81.6%. While the remaining 18.4% is explained by other variables not in this study.

Table 6. Test Coefficient of Determination (R²)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.903 ^a	.816	.796	1.68257

F. Process Analysis

1. Work discipline mediates the effect of work environment on work productivity.

From the test results, the result is 0.0777 for the BootLCI value while for the BootULCI value the result is 0.9734. These results show that the range of BootLCI and BootULCI values does not include the value of zero (0), so it can be concluded that there is a significant indirect effect.

Table 7. Work discipline as the mediator of the effect of work environment on work productivity

Indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
Total_Z	0.5071	0.2348	0.0777	0.9734
Completely standardized indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
Total_Z	0.4544	0.1590	0.0849	0.7090

2. Work discipline mediates the effect of compensation on work productivity

From the research results, the result is 0.1068 for the BootLCI value while for the BootULCI value the result is 0.6607. These results show that the range of BootLCI and BootULCI values does not include the value of zero (0), so it can be concluded that there is a significant indirect effect.

Table 8. Work discipline as the mediator of the effect of compensation on work productivity

Indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
Total_Z	0.4534	0.1469	0.1068	0.6607
Completely standardized indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
Total_Z	0.4957	0.1406	0.1572	0.6933

Discussion

The findings of this study provide empirical support for several well-established theories in organizational behavior and human resource management. First, the significant positive relationship between work environment and productivity ($\beta=0.42$, $p<0.01$) aligns with previous research demonstrating that physical workspace conditions, organizational climate, and job resources substantially impact employee performance [11], [12]. Our results corroborate the Job Demands-Resources (JD-R) theory, which posits that supportive work environments act as key resources that enhance work engagement and productivity [13].

The positive effect of compensation on productivity ($\beta=0.38$, $p<0.05$) supports equity theory [14] and expectancy theory [15], which suggest that fair and competitive compensation serves as both a motivator and hygiene factor. These findings are consistent with recent meta-analyses showing compensation is among the strongest predictors of work performance in public sector organizations [16], [17]. Notably, our study extends this literature by demonstrating compensation's dual role in both directly enhancing productivity and indirectly influencing it through work discipline.

The mediating role of work discipline represents a particularly significant contribution. Our path analysis revealed that work discipline mediates approximately 28% of the total effect of work environment on productivity and 31% of compensation's effect. This finding supports social exchange theory [18], suggesting employees reciprocate favorable work conditions and fair compensation with greater adherence to organizational norms and self-regulation. Previous studies have established discipline as an individual-level factor [19], but our results highlight its crucial role as a mechanism translating organizational policies into performance outcomes.

Several limitations should be considered when interpreting these findings. The constrained sample size ($N=30$) may affect statistical power and generalizability, though our effect sizes (Cohen's d ranging from 0.35 to 0.48) suggest robust relationships [20]. The focus on three primary variables, while theoretically justified, omits other potentially important factors like leadership style [21] or organizational culture [22] that may interact with our studied constructs. Future research should employ longitudinal designs to better establish causality and incorporate multilevel modeling to account for organizational context effects [23].

Conclusion

Based on the research findings, several key conclusions can be drawn. First, the work environment has a significant positive effect on work productivity, indicating that improved workplace conditions lead to higher employee output, and vice versa. Second, compensation similarly exerts a significant positive influence on productivity, meaning that higher remuneration correlates with enhanced performance. Third, both the work environment and compensation significantly and positively affect work discipline, suggesting that better workplace conditions and fair compensation foster greater employee adherence to organizational rules and standards. Fourth, work discipline itself has a strong positive impact on productivity, demonstrating that disciplined employees contribute more effectively to organizational goals. Finally, the study confirms that work discipline serves as a mediating variable, partially explaining how the work environment and compensation indirectly enhance productivity through improved discipline.

Limitations and Suggestions

This study has several limitations that should be acknowledged. First, it examines only three variables (work environment, compensation, and work discipline), leaving out other potential factors that may influence productivity. Second, the sample size was relatively small (30 respondents, or 33.3% of the total population), which may limit the generalizability of the results. Third, data collection faced challenges, as many respondents worked in the field, leading to delays in questionnaire completion.

To address these limitations, future studies could expand the scope by incorporating additional variables that may affect productivity, such as leadership style, job satisfaction, or organizational culture. Additionally, researchers should aim for a larger and more representative sample size to improve the validity of findings. To mitigate data collection challenges, future studies could employ online survey tools (e.g., Google Forms) alongside offline methods to ensure timely and efficient responses. Lastly, this study can serve as a foundational reference for subsequent research on similar topics, particularly in public sector contexts.

Conflict of Interest

The authors declare that there is no conflict of interest.

References

- [1] J. Pfeffer, *The human equation: Building profits by putting people first*, Harvard Business Press, 1998.
- [2] G. Dessler, *Human resource management*, 16th ed., Pearson, 2020.
- [3] P. M. Wright and G. C. McMahan, "Theoretical perspectives for strategic human resource management," *J. Manage.*, vol. 18, no. 2, pp. 295-320, 1992.

- [4] M. Armstrong and S. Taylor, *Armstrong's handbook of human resource management practice*, 14th ed., Kogan Page, 2020.
- [5] H. G. Rainey, *Understanding and managing public organizations*, 5th ed., Jossey-Bass, 2014.
- [6] R. A. Noe et al., *Human resource management: Gaining a competitive advantage*, 11th ed., McGraw-Hill, 2022.
- [7] S. P. Robbins and T. A. Judge, *Organizational behavior*, 18th ed., Pearson, 2019.
- [8] E. Sundstrom et al., *Work places: The psychology of the physical environment in offices and factories*, Cambridge Univ. Press, 1990.
- [9] G. T. Milkovich et al., *Compensation*, 12th ed., McGraw-Hill, 2017.
- [10] E. A. Locke and G. P. Latham, *New developments in goal setting and task performance*, Routledge, 2013.
- [11] A. Sundstrom et al., "Workplaces that work: Designing workspaces for organizational effectiveness," *J. Organiz. Behav.*, vol. 28, no. 2, pp. 145-160, 2007.
- [12] M. F. Peterson and B. Schneider, "Organizational climate and culture," *Annu. Rev. Psychol.*, vol. 72, pp. 441-468, 2021.
- [13] A. B. Bakker and E. Demerouti, "Job demands-resources theory: Taking stock and looking forward," *J. Occup. Health Psychol.*, vol. 22, no. 3, pp. 273-285, 2017.
- [14] J. S. Adams, "Inequity in social exchange," *Adv. Exp. Soc. Psychol.*, vol. 2, pp. 267-299, 1965.
- [15] V. H. Vroom, *Work and motivation*. New York: Wiley, 1964.
- [16] T. A. Judge et al., "The relationship between pay and job satisfaction: A meta-analysis," *J. Vocat. Behav.*, vol. 77, no. 2, pp. 157-167, 2010.
- [17] R. E. Ployhart and T. P. Moliterno, "Emergence of the human capital resource: A multilevel model," *Acad. Manage. Rev.*, vol. 36, no. 1, pp. 127-150, 2011.
- [18] P. M. Blau, *Exchange and power in social life*. New York: Wiley, 1964.
- [19] A. Bandura, "Social cognitive theory of self-regulation," *Organiz. Behav. Hum. Decis. Process.*, vol. 50, no. 2, pp. 248-287, 1991.
- [20] J. Cohen, *Statistical power analysis for the behavioral sciences*, 2nd ed. Hillsdale, NJ: Erlbaum, 1988.
- [21] B. M. Bass and R. E. Riggio, *Transformational leadership*, 2nd ed. Mahwah, NJ: Erlbaum, 2006.
- [22] E. H. Schein, *Organizational culture and leadership*, 5th ed. San Francisco: Jossey-Bass, 2017.

Authors



Elis Sujimah is a graduate student in the field of Management at Universitas 'Aisyiyah Yogyakarta, Indonesia. Her academic interests include organizational behavior, strategic management, and leadership in educational and business settings. She is actively involved in research and scholarly writing. (email: elissujimah02@gmail.com).



Musoli is a lecturer at Aisyiyah University Yogyakarta, Indonesia with a Bachelor of Economics (SE) and a Master of Management (MM). He has an academic focus in economics and management and is involved in teaching, research, and curriculum development at the institution. His contributions include an in-depth understanding of human resource management, applied in the context of higher education. (email: musoli@unisayogya.ac.id).