THE IMPACT OF EMPLOYEE PERFORMANCE ON EMPLOYEE PRODUCTIVITY: BASED ON THE WORK ENVIRONMENT, STANDARD OPERATING PROCEDURES (SOP), AND WORK DISCIPLINE

Winarko1; Djano Lastro2; Yusuf Iskandar3; Chajar Matari Fath Mala4
Department of Management & Jaya Launch Pad, Universitas Pembangunan Jaya1; STIE Pengembangan Bisnis dan Manajemen2; Department of Management & Jaya Launch Pad, Universitas Pembangunan Jaya3; Department of Management & Jaya Launch Pad, Universitas Pembangunan Jaya4;
Email: win.darko@upj.ac.id1; djano.veer@gmail.com2; yusuf.iskandar@upj.ac.id3; chajar.matari@upj.ac.id4

ABSTRACT
This research explores the complex relationship between employee performance and productivity within a company. Typically, research related to performance and productivity focuses on the skills of employees as well as their motivation or incentives. In this case, the researcher aims to examine performance and productivity from three other crucial factors: the work environment, Standard Operating Procedures (SOP), and work discipline. This is because it has been found that these three factors can also influence an employee's performance, ultimately impacting their productivity while working. The research results will reveal whether a positive work environment can have a positive impact on performance. Similarly, the increasing strictness of SOPs and the discipline in following them can also have a positive effect on both performance and productivity.

INTRODUCTION
Productivity (being productive in activities, actions, and work) is a general requirement for all companies in the world. Productivity describes the level of productivity of the work process or product manufacturing process in a company regarding its output results. Productivity is also a reference ratio in determining input and output, although in principle it focuses on output results. There is a comparison between input and output. "Human resources determine input, and infrastructure determines output" (Sinungan, 2007). Productivity is sometimes also considered a very precise measuring tool in showing work efficiency so that it is seen as a user of incentives for conversion resources.

In supporting productivity, a manager must be able to prepare guidelines that serve as a reference for employees in working or completing their daily tasks to create effective and efficient productivity. The reference itself is a written guideline or rule (SOP) as a basis for carrying out work and a reward system given to employees to support work productivity. Standard Operating Procedures (SOP) contain a series of written instructions about routine or repetitive activities carried out by an organization. For this reason, the SOP is also equipped with references, attachments, forms, diagrams, and workflows (flow charts). Managers must be able to create SOPs that are clear, directed, and systematic so they are easy to understand.

Besides that, an employee's productivity will be in line with his performance. An employee’s performance can also be influenced by the environment around him or her working and also the employee’s discipline in following SOPs. A combination of Work Environment, Work Discipline, and SOP can provide improvement and balance in
employee performance. Through performance alignment that can increase productivity, the company's output will grow productively and be within reasonable limits.

At PT. Cosmotech Multi Mandiri, in Depok City, West Java, operates in the PKRT (Household Health Supplies) and Converting sectors. However, after conducting a direct survey, I observed whether the SOP had been implemented properly regarding the main tasks and functions in their respective fields of work.

This is the basis for the author wanting to examine the Work Environment, Work Discipline, and SOP capable of increasing employee performance from PT. Cosmotech Multi Mandiri and will have the final impact in the form of employee productivity, by increasing output from PT. Cosmotech Multi Mandiri.

**METHOD**

**Research Model Development**

---

**Previous Research**

<table>
<thead>
<tr>
<th>No</th>
<th>Study</th>
<th>Research Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engel Priskila et al (2020) The Influence of Standard Operating Procedures (SOP), Facilities and Work Discipline on Employee Performance in Noongan Hospital, Manado.</td>
<td>The results of this research found that operational operational standards have a significant positive effect on employee performance. Facilities have a significant positive effect on employee performance. The variables of operational standards, facilities and work discipline simultaneously influence employee performance at Noongan Regional Hospital.</td>
</tr>
<tr>
<td>2</td>
<td>Riski (2019) The Influence of Work Environment and Discipline on Employee Work Productivity at PT. Rigunas Agri Utama Indragiri Hulu Regency</td>
<td>There is a significant influence between the work environment on employee work productivity</td>
</tr>
<tr>
<td>3</td>
<td>Waskito Waskito1 and Anna Wulandari (2022) The Effect Of Work Motivation and Work Environment On Employee Performance With Work Discipline As Intervening Variable</td>
<td>The research results show motivation and work environment has a positive effect on discipline but not on employee performance. Mediating work discipline positive environment and motivation for performance</td>
</tr>
<tr>
<td>4</td>
<td>Eno Yunitasari, et.all (2021) The Effect of Performance Assessment on Work Productivity On PT. Jimmulya Palembang</td>
<td>Research result proves that performance appraisal has a significant positive effect on employee work productivity.</td>
</tr>
</tbody>
</table>

---

Based on the results of previous research, it has shown that it is true that there is an influence between the variables of Work Environment, Work Discipline, and SOP on Employee Performance which also has an impact on Work Productivity.

This has also been confirmed by many experts, namely Tjipto Atmoko (2011) who explains that SOP (Standard Operating Procedure) is also a guideline or reference for carrying out work tasks by the function and performance assessment tool for government and non-government agencies, businesses and non-business, based on technical indicators, by work procedures, work procedures and work systems in the work unit concerned. (H1: Soup has a significant impact on employee performance, H6: Soup has a significant impact on productivity, H10: Soup has a significant impact on performance which ultimately influences productivity significantly).
There is a unique finding in previous research by Waskito & Anna (2022) that there is a connection between work discipline and the work environment and the results of the work environment on employee performance through positive and significant work discipline. Also contained in the research of Dianta & Suyantiningsih, (2020), proves that through high work discipline, there will be an influence between the work environment and increased performance. An environment that provides workers with a sense of comfort in carrying out work creates a sense of care and discipline (Herawati & Ranteallo, 2019). Employee awareness of the importance of the work area by carrying out the 5 r’s (concise, tidy, tidy, cared for, diligent) which are carried out with discipline and commitment to implementing these principles so that the work area is protected from abnormalities that result in work accidents. The company supervises these activities and focuses on improving work discipline so that the work environment improves so that employee performance can be achieved. (H3: The work environment influences performance significantly, H4: Work discipline is significantly influenced by the work environment, H7: The work environment influences productivity directly and significantly. H9: The work environment has an impact on employee performance which has a significant impact on productivity. H12: The work environment has an impact On work discipline so that it has the effect of improving employee performance and has a significant impact on productivity). There is a positive and significant influence of work discipline on employee performance. The results of this research are supported by previous research (Wahyudi, Semmaila, & Arifin, 2020) which states that work discipline significantly influences performance. Awareness and willingness to comply with social regulations and norms in the form of attitudes, behavior, and actions encourage better quantity and quality of work. (H2: Work discipline has a significant impact on performance, H8: Work discipline has a significant impact on productivity, H11: Work discipline has a significant impact on performance and influences productivity).

According to the research results of Eno Yunitasari, et. all (2021), it is said that performance can significantly influence productivity. This means that with good employee performance, they will be more productive at work. Of course, there are factors that can improve employee performance. And this has been defined in other hypotheses. Researchers want to test directly at PT. Cosmotech Multi Mandiri (H5: There is a significant influence between employee performance and productivity).

The data used are all 37 employees at PT. Cosmotech Multi Mandiri. This sampling technique refers to the theory of Arikunto (2019) "In general, the technique used in research sampling is not single, but a combination of 2 or 3 techniques" (p. 182). Regarding sampling, Arikunto's opinion (in Gumilar and Anggi, 2020) is that "if there are many subjects, the sample taken is 10-15%, 20-25% or even more" (p. 85). In this case all employees of PT. Cosmotech Multi Mandiri has 117 employees, so this research uses 28% of the population. Data collection uses a questionnaire method by filling out the questionnaire online using Google Forms.

The researcher concluded from various previous research findings by creating a research model framework that looks like Figure 1 along with the hypothesis. Testing will be carried out using Path Weighting based on R-Square, Reliability Test, t-Test, and 5% Significance with the help of the Smart PLS Application using the SEM PLS Bootstrap method.

This pertains to the concept presented by the R-Square metric, which is employed to gauge the extent of variability in alterations of the independent variable
concerning the dependent variable (Jogiyanto, 2011:72). R-Square values of 0.75, 0.50, and 0.25, respectively, indicate that the model is robust, moderate, and feeble (Ghozali & Latan, 2015:82). Additionally, the second criterion for assessing the structural model (inner model) is significance. The significance level, determined using two-tailed t-values, is 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.58 (significance level = 1%) (Ghozali & Latan, 2015:85).

The Reliability Test is employed to validate the precision, consistency, and accuracy of instruments in measuring constructs (Ghozali & Latan, 2015:75). Evaluating the reliability of a construct with reflective indicators can be accomplished through two methods, specifically Cronbach’s Alpha and Composite Reliability. The rule of thumb for assessing construct reliability stipulates that the Composite Reliability value should exceed 0.70.

According to Siregar (2017), in the context of hypothesis testing using statistical tests, the T-test can be utilized to examine hypotheses. A hypothesis serves as a provisional response to a research objective that stems from the established theoretical framework.

As per Siregar (2017), the Correlation Coefficient (R) is a numerical measure denoting the strength of the relationship between two or more variables or indicating their directional association. The correlation value falls within the range of -1 to 1, with values closer to these extremes indicating the strength of the relationship and its direction denoted by a positive (+) or negative (-) sign.

Siregar (2017) also explains that the Coefficient of Determination (R2) is a numeric representation used to ascertain the contribution made by one or more independent variables (X) to the dependent variable (Y).
RESULTS AND DISCUSSION

Figure 2. SEM PLS Graphic Processing Results Bootstrap Method

1. Path Coefficient Test Results

| PATH COEFFICIENT | T statistics (|t|/STDEV) | P values |
|------------------|-----------------|---------|
| X1 (WORK ENVIRONMENT) \(\rightarrow\) X2 (WORK DISCIPLINE) | 13.976 | 0.000 |
| X1 (WORK ENVIRONMENT) \(\rightarrow\) Y (EMPLOYEE PERFORMANCE) | 0.428 | 0.669 |
| X1 (WORK ENVIRONMENT) \(\rightarrow\) Z (EMPLOYEE PRODUCTIVITY) | 1.173 | 0.241 |
| X2 (WORK DISCIPLINE) \(\rightarrow\) Y (EMPLOYEE PERFORMANCE) | 5.657 | 0.000 |
| X2 (WORK DISCIPLINE) \(\rightarrow\) Z (EMPLOYEE PRODUCTIVITY) | 0.633 | 0.527 |
| X3 (SOP) \(\rightarrow\) Y (EMPLOYEE PERFORMANCE) | 0.100 | 0.921 |
| X3 (SOP) \(\rightarrow\) Z (EMPLOYEE PRODUCTIVITY) | 1.385 | 0.166 |
| Y (EMPLOYEE PERFORMANCE) \(\rightarrow\) Z (EMPLOYEE PRODUCTIVITY) | 2.755 | 0.006 |

From the results of the first Path Test, it can be seen that according to the Statistical T Test (13.975), it shows that the Work Environment Variable can have a strong and positive influence, namely 0.787 (path coefficient value/reliability test) or 78.70% of the Work Discipline Variable. This influence has a significant impact, as can be seen from the P value (Significance) of 0.000, which means that there are no deviations or exceptions.

The same thing also happens to the Work Discipline Variable which influences the Performance Variable according to the Statistical T Test (5.667) significantly with Significance Values (P Values = 0.000). The strong and positive influence of work discipline on employee performance can be seen from the large determinant coefficients and reliability tests. The path coefficient value is 0.763 and is 76.30% influenced by the Work Discipline Variable.
In accordance with theory and previous research findings, performance can influence productivity. This can be seen in Table 1. The Path Test Results show the statistical T value between the Performance Variable and the Productivity Variable of (2.755). The magnitude of the influence and also the determination value are at 73.50% with a reliability value of 0.735 with a significance of 0.006. Shows that the Performance Variable has a Strong, Positive, and Significant influence on the Productivity variable.

However, in this research, it was found that Work Environment Variables on Performance, Work Environment Variables on Productivity, Work Discipline on Productivity, SOPs on Performance, and SOPs on Productivity each did not have a significant influence. Also seen in Figure 2, the relationship between these variables shows that the path coefficient value (reliability test) is below 0.700 and some even have negative values (aka negative influence). The relationship between these variables shows a significance value (P value) above 0.05.

### 2. Indirect Effect Results

| TOTAL INDIRECT EFFECTS | T statistics (|O/STDEV|) | P values |
|------------------------|-----------------|---------|
| X1 (WORK ENVIRONMENT) → Y (EMPLOYEE PERFORMANCE) | 4.638 | 0.000 |
| X1 (WORK ENVIRONMENT) → Z (EMPLOYEE PRODUCTIVITY) | 0.793 | 0.428 |
| X2 (WORK DISCIPLINE) → Z (EMPLOYEE PRODUCTIVITY) | 2.514 | 0.012 |
| X3 (SOP) → Z (EMPLOYEE PRODUCTIVITY) | 0.086 | 0.932 |

Table 2. Indirect Effect Results

Based on the results of Table 2, it can be concluded that there are two relationships between variables, and there is a significant indirect influence between the variables. Namely, the work environment variable on the performance variable is indicated by preparing a good social environment and infrastructure which will automatically create good employee performance. This can be seen from the statistical T value (t-test) of 4.638 with a significance of 0.000.

Table 2 also shows that there is an indirect effect on work productivity from personal employee discipline. This is visible with the statistical T value (t-test) of 2.514 and a significance value of 0.012.

### 3. Results of Specific Indirect Effects

| SPECIFIC INDIRECT EFFECTS | T statistics (|O/STDEV|) | P values |
|---------------------------|-----------------|---------|
| X2 (WORK DISCIPLINE) → Y (EMPLOYEE PERFORMANCE) → Z (EMPLOYEE PRODUCTIVITY) | 2.514 | 0.012 |
| X1 (WORK ENVIRONMENT) → Y (EMPLOYEE PERFORMANCE) → Z (EMPLOYEE PRODUCTIVITY) | 0.372 | 0.710 |
| X1 (WORK ENVIRONMENT) → X2 (WORK DISCIPLINE) → Y (EMPLOYEE PERFORMANCE) → Z (EMPLOYEE PRODUCTIVITY) | 2.315 | 0.021 |
| X3 (SOP) → Y (EMPLOYEE PERFORMANCE) → Z (EMPLOYEE PRODUCTIVITY) | 0.086 | 0.932 |
| X1 (WORK ENVIRONMENT) → X2 (WORK DISCIPLINE) → Z (EMPLOYEE PRODUCTIVITY) | 0.613 | 0.540 |
| X1 (WORK ENVIRONMENT) → X2 (WORK DISCIPLINE) → Y (EMPLOYEE PERFORMANCE) → Z (EMPLOYEE PRODUCTIVITY) | 4.638 | 0.000 |

Table 3. Results of R-Square Values for Paths Between Independent Variables, Intervening Variables, and Dependent Variables
The relationship between the independent, intervening, and dependent variables shows that the Productivity Variable is influenced by the independent variables (Work Discipline and Work Environment) and the intervening variable (Performance). It is known that the relationship between Work Discipline -> Performance -> Productivity has a path coefficient value of 0.561, which means it has a moderate relationship, meaning that performance can increase productivity if employee work discipline increases which has an impact on their performance. Proved by the t-test (2.514) with a significance value of (0.012).

As mentioned in previous research, the Work Discipline Variable can also be a moderator variable between performance variables and Work Environment Variables in an almost strong, positive, and significant manner. Judging from the R-Square Test Results, the path is (0.600), which means it is moderate and has a strong influence. And shown by the t-test results of (4.638) at the significance level (0.000). Work Discipline also after moderating employee performance can increase their productivity. This effect is shown by the t-test results of (2.315) and a significance of 0.021. The relationship between the influence of this path is shown by an R-squared value of 0.441, which means the influence is not strong but also not weak (moderate).

4. Hypothesis Analysis
   a. The t-table value in this study is equal to the t-values (1.920) at the 5% significance level (0.05). By referring to these two values, the analysis of the hypothesis in this study can be taken as follows.
   b. a. H1: Sop has a significant influence on employee performance, rejected with a calculated t value of 0.100 < t table 1.920 at a significance level of 0.921.
   c. b. H2: Work Discipline Has a Significant Influence on Performance, Accepted with a calculated t value of 5.657 > t table 1.920 at a significance level of 0.000.
   d. c. H3: The work environment significantly influences performance, rejected with a calculated t value of 0.428 < t table 1.920 at a significance level of 0.669.
   e. d. H4: Work Discipline is Significantly Influenced by the Work Environment, Accepted with a calculated t value of 13.976 > t table 1.920 at a significance level of 0.000.
   f. e. H5: There is a significant influence between employee performance and productivity, accepted with a calculated t value of 2.755 > t table 1.920 at a significance level of 0.006.
   g. f. H6: Sop has a significant influence on productivity, rejected with a calculated t value of 1.385 < t table 1.920 at a significance level of 0.166.
   h. g. H8: Work Discipline Has a Significant Influence on Productivity, Rejected with a calculated t value of 0.633 < t table 1.920 at a significance level of 0.527.
   i. h. H7: Work Environment Influences Productivity Directly and Significantly, Rejected with a calculated t value of 1.173 < t table 1.920 at a significance level of 0.241.
   j. i. H9: The work environment has an impact on employee performance which has a significant influence on productivity, rejected with a calculated t value of 0.372 < t table 1.920 at a significance level of 0.710.
k. j. H10: Sops have an impact on performance which ultimately influences productivity significantly, rejected with a calculated t value of $0.086 < t$ table $1.920$ at a significance level of $0.932$

l. k. H11: Work Discipline Impacts Performance and Influences Productivity Significantly, Accepted with a calculated t value of $2.514 > t$ table $1.920$ at a significance level of $0.012$

m. H12: The work environment has an impact on work discipline so it has the effect of improving employee performance and has a significant impact on productivity. Accepted with a calculated t value of $2.315 > t$ table $1.920$ at a significance level of $0.021$.

**CONCLUSION**

Conclusions can be drawn based on the results of research and data analysis that have been carried out. No matter how good Standard Operating Procedures (SOPs) are, they will not be able to improve employee performance and will not even be able to increase employee productivity independently. This means that good human resources are needed individually to be able to translate and follow good SOPs to increase employee performance and have implications for productivity. The same thing also happens in the work environment. A work environment that has been created well, is as comfortable as possible, and can support employee work, has not been able to partially improve employee performance. Good human resources are also needed so that all facilities and a good work environment atmosphere can improve employee performance.

In the end, it is work discipline or individual skills that can improve employee performance which has direct implications for employee productivity. So companies need to recruit employees who have discipline, personality, and good work enthusiasm to increase employee performance and productivity. However this research also shows us that the work environment can improve employee discipline quite well.

Employee productivity will be greatly influenced by the performance of each employee. And the role of individual discipline of each employee holds a big key in improving this performance. However, good SOPs supported by a good work environment will increase employee performance and will be felt by increasing employee productivity. The results of this analysis and discussion are based on a case study at PT. However, it is hoped that the author's analysis can be implemented generally and not limited to just the corporate environment.

**Reference**


Management, Finance and Marketing (ARASTIRMA), Volume 1 No 1, 43-44. doi:http://dx.doi.org/10.32493/arastirma.v1i1.10061


Vanesa, YY (2019). The Influence Of Organizational Culture, Work Environment And Work Motivation On Employee Discipline in PT Jasa Marga(Persero) TBK, Medan Branch, north Sumatra, Indonesia. AIJB.M.