

# Measuring Work Productivity In Improving Employee Performance Based On Work Discipline

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## ABSTRACT

The purpose of the study is to analyze the role of work discipline in improving employee performance with work productivity as an intervening variable at PT. Sejahtera Mandiri of Semarang. This study uses a quantitative method using a questionnaire to collect the necessary data. The research sample consisted of 98 people obtained through a census technique. The analysis used to process the data used the Structural Equation Model (SEM) through the Partial Least Square (PLS) approach with the help of the SmartPLS ver. 3.2.9 program. The results of this study indicate that work discipline and work productivity have a positive and significant effect on employee performance. Work discipline indirectly through work productivity as an intervening variable has a significant effect on employee performance.

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## 1. Introduction

Human resources play a very strategic role in an organization, because their existence is a key element in carrying out various activities to achieve organizational goals. Therefore, the existence of human resources has a strong position. According to Mangkunegara (2014), performance is defined as the level of achievement of task implementation by individuals, units, or divisions by utilizing existing capabilities and paying attention to the limitations that have been set to achieve organizational or company goals. Yuniarti et al. (2019), performance also means the results achieved by a person, both in quality and quantity, according to the responsibilities given to him. Organizational performance is highly dependent on the quality of the performance of individual employees. The better the individual performance, the greater the potential for increasing organizational performance, considering that the two have an interrelated relationship. Improving performance also provides positive feedback for employee efforts and motivation in the next stage (Gomes, 2003). Employee performance is influenced by various factors, including work discipline and work productivity.

One of the factors that influences employee performance is discipline. Discipline. Rivai (2004) stated that discipline is a tool used by managers to communicate with employees so that they are willing to change a behavior and as an effort to increase awareness and willingness of a person to obey all applicable company regulations and social norms. In the research of Souisa et al., (2023); Afifah & Santoso (2020). stated that work discipline has a significant effect on employee performance. Productivity is the ability of each person, system, or company to produce goods or services by utilizing resources effectively and efficiently. Hasibuan (2019), "productivity is the

comparison between output and (results) and input". Increased productivity is made possible by increased efficiency (time, materials, labor), work systems, production techniques and increased skills of the workforce. There are several ways to make employees productive at work, including providing adequate compensation, increasing work discipline and fostering appropriate work motivation. That way there is integration between employee desires and company interests, this can cause employees to be more dynamic in working and continue to be consistent in producing and of course if it is like that it will have a positive impact on employee performance.

This study took the object at PT Sejahtera Mandiri in Semarang which is a company engaged in the manufacturing sector that is developing in the Semarang area which produces various electronic equipment and focuses more on meeting the needs of household appliances (Home Appliances). Having the goal of becoming the largest Home Appliances electronic company in Indonesia, to achieve the company's goals, the company strives to produce quality, practical and economical products. Therefore, employee performance is very important in order to meet daily production targets, which in the last 3 years the company's performance has decreased so that the target cannot be realized.

## 2. Method

### Type of Research

This type of research is quantitative research. The research begins with a problem and builds a framework of thought so that it can be used to answer the problem. The type of research used in this study is an explanatory type, namely explaining the influence between certain variables through hypothesis testing. This research is used to test the hypothesis and explain the influence between variables, namely the independent variable (work discipline) on employee performance with work productivity as an intervening variable. Primary data can be obtained directly from the research object, this data is obtained directly from the main source and obtained through distributing questionnaires.

### Population and Sample

The population in this study were employees of PT Sejahtera Mandiri in Semarang. The sample in this study was 98 people. The sampling technique in this study used a census.

### Type and Source of Data

The type of data needed in this study is quantitative data. The data source needed for this study is primary data, namely data obtained from direct sources without intermediaries, where the primary data in this study is in the form of questions containing employee responses obtained through questionnaires regarding work discipline, work productivity and employee performance.

### Data Collection Method

The media needed to collect data in this study is a questionnaire. The questionnaire that has been prepared is then distributed directly to employees of PT Sejahtera Mandiri in Semarang. Measurement of variables in this study was carried out using the Likert scale, which is a scale needed to measure attitudes, opinions, and perceptions of both individuals and groups regarding social events.

### Structural Equation Modeling (SEM) Analysis with SmartPLS

The analysis method used in this study is Partial Least Square (PLS). Each hypothesis will be analyzed using SmartPLS 3.2.9 software to test the relationship between variables

## 3. Results and Discussion

### Description of Research Variables

Description of Research Variables in this human resource management (HR) research is important to describe the variables that will be observed and analyzed in the study. This helps to clearly understand the concepts and dimensions being studied. This study uses a questionnaire as a means to determine the effect of Work From Home, Workload on Employee Performance with Work Motivation as a mediating variable. The measurement scale used in scoring uses the Likert

Scale 1-5. Based on the results of the answers to the questionnaire distributed to respondents to the variables studied.

### Data Analysis

Data processing techniques with Partial Least Square (PLS) require 2 stages to assess the Fit Model of a research model.

#### Assessing the Outer Model or Measurement Model

There are three criteria in the use of data analysis techniques with SmartPLS to assess the outer model, namely convergent validity, discriminant validity and composite reliability.

##### 1) Convergent Validity

Convergent validity assessment is based on the correlation between item scores/component scores estimated with PLS Software. The individual reflexive measure is said to be high if it correlates more than 0.70 with the measured construct which is considered adequate. In this study, a loading factor limit of 0.70 will be used.

**Table 1.** Outer Loadings (Measurement Model)

Variable	Indicator	Loading Factor
Work Discipline	X1.1	0.742
	X1.2	0.739
	X1.3	0.814
	X1.4	0.808
Work Productivity	M1	0.785
	M1.2	0.836
	M1.3	0.786
	M1.4	0.807
	M1.5	0.820
Employee Performance	Y1	0.811
	Y2	0.785
	Y3	0.865
	Y4	0.836

<sup>a</sup>. Source: Data processing with SmartPLS, 2024

The results of processing using SmartPLS can be seen in table 1, the outer model value or correlation between constructs and variables has met convergent validity because it has a loading factor value of  $> 0.70$ , the conclusion is that the construct for all variables can be used to test the hypothesis.

##### 2) Discriminant Validity

The discriminant validity of a model is considered good if each loading value of each indicator of a latent variable has the largest loading value with other loading values against other latent variables. The results of the discriminant validity test are obtained as follows:

**Table 2.** Discriminant Validity (Cross Loading)

	Employee Performance	Work Productivity	Work Discipline
<b>X1.1</b>	0.660	0.564	0.831
<b>X1.2</b>	0.592	0.519	0.820
<b>X1.3</b>	0.652	0.625	0.860
<b>X1.4</b>	0.674	0.597	0.891
<b>M1.1</b>	0.602	0.563	0.887
<b>M1.2</b>	0.593	0.608	0.782
<b>M1.3</b>	0.620	0.631	0.837
<b>M1.4</b>	0.569	0.547	0.861
<b>M1.5</b>	0.694	0.589	0.862
<b>Y1</b>	0.655	0.783	0.682
<b>Y2</b>	0.691	0.812	0.689
<b>Y3</b>	0.583	0.783	0.463
<b>Y4</b>	0.521	0.793	0.454

<sup>b</sup>. Source: Data processing with SmartPLS, 2024

Based on the table, it is known that the loading factor value for the indicator of the latent variable has a loading factor value greater than 0.7. This means that the latent variable has good discriminant validity.

### 3) Evaluating Reliability and Average Variance Extracted (AVE)

The validity and reliability criteria can also be seen from the reliability value of a construct and the Average Variance Extracted (AVE) value of each construct. A construct is said to have high reliability if its value is 0.70 and AVE is above 0.50. The table will present the Composite Reliability and AVE values for all variables.

**Table 3. Composite Reliability, Average Variance Extracted**

Variable	Alpha Cronbach	Composite Reliability	Average Variance Extracted
<b>Work Discipline</b>	0.849	0.912	0.814
<b>Work Productivity</b>	0.767	0.834	0.760
<b>Employee Performance</b>	0.835	0.865	0.815

<sup>c</sup> Source: Data processing with SmartPLS, 2024

Based on table 3, it can be concluded that all constructs meet the reliable criteria, this is indicated by the Cronbach alpha value > 0.7; composite reliability > 0.70 and AVE > 0.50 as recommended criteria.

### 4) Structural Model Testing (Inner Model)

The structural model or inner model is evaluated by looking at the percentage of explained variance, namely by looking at R<sup>2</sup> for the dependent latent construct using the Stone-Geisser Q Square test measures and also looking at the structural path coefficient. The stability of the estimate is tested with t-statistics through the bootstrapping procedure.

The results of the PLS R-Squares present the amount of variance of the construct explained by the model. The following are the results of the R-Squares value calculation:

**Table 4. R-Square**

Variable	R-square
Work Productivity	0.791
Employee Performance	0.716

Source: Data processing with SmartPLS, 2024

This study uses 2 variables that are influenced by other variables, namely the work productivity variable influenced by work discipline and the employee performance variable influenced by work discipline and work productivity. Table 4 shows the R-square value for the work productivity variable obtained at 0.791 and for the employee performance variable obtained at 0.716. These results indicate that 79.1% of the work productivity variable is influenced by work discipline and 71.6% of the employee performance variable is influenced by work discipline and work productivity.

### Direct Influence Hypothesis Testing

The basis for testing the hypothesis in this study is the value contained in the output result for inner weight. The results of the estimated output for testing the structural model can be seen in the following table:

**Table 5. Result For Inner Weights**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
<b>Work Discipline -&gt; Work Productivity</b>	0.468	0.467	0.213	4.138	0.000
<b>Work Discipline -&gt; Employee Performance</b>	0.311	0.413	0.207	3.461	0.002
<b>Work Productivity -&gt; Employee Performance</b>	0.592	0.308	0.121	3.691	0.001

<sup>d</sup> Source: Data processing with SmartPLS, 2024

The results of the bootstrapping test in this study from the PLS analysis are as follows:

#### a) Hypothesis Testing 1: Work Discipline has a significant effect on Work Productivity

The effect of work discipline on work productivity shows a path coefficient value of 0.468 with a t-statistic value of 4.138. This value is greater than the t-table of 1.6607, which means that Hypothesis 1 is accepted. Based on these results, it can be interpreted that work discipline has a

positive and significant effect on work productivity at PT Sejahtera Mandiri in Semarang in accordance with the first hypothesis where work discipline can be a driving factor for employee work productivity.

b) Hypothesis Testing 2: Work Discipline has a significant effect on Employee Performance

The effect of work discipline on employee performance shows a path coefficient value of 0.311 with a t-statistic value of 3.461. This value is greater than the t-table of 1.6607, which means that Hypothesis 2 is accepted. Based on these results, it can be interpreted that work discipline has a positive and significant effect on employee performance at PT Sejahtera Mandiri in Semarang in accordance with the second hypothesis where work discipline can be a driving factor for employee performance.

c) Hypothesis Testing 3: Work productivity has a significant effect on Employee Performance

The effect of work productivity on employee performance shows a path coefficient value of 0.592 with a t-statistic value of 3.691. This value is greater than the t-table of 1.6607, which means that Hypothesis 3 is accepted. Based on these results, it can be interpreted that work productivity has a positive and significant effect on employee performance at PT Sejahtera Mandiri in Semarang in accordance with the third hypothesis where work productivity can be a driving factor for employee performance.

### Indirect Effect Hypothesis Testing

The results of the indirect effect hypothesis testing through work productivity as an intervening variable by looking at the Smartpls output on Total Indirect Effects, can be presented in the following table:

**Table 6.** Total Indirect Effects

Path Analysis	T Statistics	P Value
Work Discipline – Work Productivity – Employee Performance	3.129	0.137

Source: Data processing with SmartPLS, 2024

d) Hypothesis Testing 4: Work discipline has a significant effect on Employee Performance through Work Productivity as an intervening variable

The effect of work discipline on employee performance through work productivity as an intervening variable is shown by the tstatistic value of 2.129 > ttable (1.6607). This means that Hypothesis 4 is accepted. This means that work discipline indirectly through work productivity as an intervening variable has a significant effect on employee performance, which means that work discipline can improve employee performance through work productivity as an intervening variable.

## Discussion

### The Effect of Work Discipline on Work Productivity

The first hypothesis of the study shows that there is an influence between work discipline and work productivity. The results of this study are in accordance with the findings of research by .. found that work discipline has a positive effect on work productivity. Thus, the first hypothesis of the study (H1), namely that work discipline has a positive effect on work productivity, is accepted. Research conducted by Santoni & Suana (2018) also revealed that work discipline has a positive and significant effect on work productivity, and research conducted by Wartono (2018) also stated that work discipline has a positive and significant effect on work productivity.

### The Effect of Work Discipline on Employee Performance

The second hypothesis of the study shows that there is an influence between work discipline and employee performance. The results of this study are in accordance with the findings of research by Halim et al, (2016) which states that work discipline has a positive and significant effect on employee performance. Thus, the second hypothesis of the study (H2), namely that work discipline has an effect on employee performance, is accepted. The results of this research are supported by research by Souisa et al., (2023) which states that work discipline has a significant effect on employee performance.

## The Effect of Work Productivity on Employee Performance

The third hypothesis of the study shows that there is an influence between work productivity and employee performance. The results of this study are in accordance with the findings of the study by showing that work productivity has a positive effect on employee performance. Thus, the third hypothesis of the study (H3), namely that work productivity has an effect on employee performance, is accepted. Productivity refers to how efficient and effective a person is in completing the work tasks given. This is very important in maintaining business continuity because good productivity will have a positive impact on employee performance. Performance is a condition that must be known which must be confirmed to certain parties to find out the level of achievement of the results of an agency related to a vision and carried out by an organization or company and to know the positive and negative impacts of an operational policy (Robbins, 2014 in Santoso et al. 2021). From all the research results conducted, employee productivity greatly affects employee performance, so companies or other agencies should pay more attention to productivity within the company in order to achieve the goals they want to set. The results of this research are supported by Allo et al. (2024) which states that work productivity can affect employee performance.

### Mediation Test: Work Discipline has a significant effect on Employee Performance through Work Productivity

The findings of the mediation effect can be concluded that work productivity can mediate the effect of work discipline on employee performance. This indicates that the higher the work discipline, the higher the employee work productivity and ultimately the higher the employee performance. Siagian (2017) in Nurhidayati et al., (2022) states that in general performance measurement is translated into an assessment of work behavior in general, then translated into basic work behavior which includes work quantity, work quality, knowledge about work, opinions or statements submitted, decisions This sentence explains the relationship between work discipline, productivity, and employee performance. High work discipline: When employees have a good level of discipline, such as: arriving on time, obeying the rules, and being consistent in completing tasks. Increased productivity: High discipline will encourage employees to work more effectively and efficiently, so that their work results increase. Improved employee performance\*: Higher productivity directly impacts the quality and output of employee work, which ultimately has a positive impact on their overall performance within the organization. In essence, work discipline is the main foundation for improving overall productivity and performance.

## 4. Conclusion

Work discipline has a positive and significant effect on work productivity and employee performance at PT Sejahtera Mandiri in Semarang. Work productivity has a positive and significant effect on employee performance at PT. Sejahtera Mandiri in Semarang. Work discipline indirectly through work productivity is able to act as an intervening variable that can significantly affect employee performance at PT. Sejahtera Mandiri in Semarang. The R-square value for the work productivity variable is 0.791 and for the employee performance variable is 0.716. These results indicate that 79.1% of the work productivity variable is influenced by work discipline and 71.6% of the employee performance variable is influenced by work discipline and work productivity.

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