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Factors Affecting Employee Work Productivity During the Covid-19 Pandemic

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A R T I C L E I N F O

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ABSTRACT

The variables of this research are Leadership (X1), Compensation (X2), Work Discipline (X3), Work Environment (X4), Work Supervision (X5) and Work Productivity (Y). The purpose of this study was to determine the effect of variables X1, X2, X3, X4 and X5 on variable Y partially and simultaneously during the Covid-19 pandemic. This study uses a statement instrument distributed to 68 employees of PT. "X" as the research sample. Data analysis using the PLS method which is an alternative method of analysis with Structural Equation Model (SEM) based on variance. The results of this study indicate that leadership has a positive and significant effect on work productivity, compensation does not have a significant effect on work productivity, work discipline does not have a significant effect on work productivity, the work environment has a negative and significant effect on work productivity and work supervision does not. has a significant effect on work productivity. From the analysis of the factors that affect work productivity, only leadership and work environment have a positive and significant effect on work productivity.

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1. Introduction

Indonesia is currently experiencing a Covid-19 pandemic situation, which has resulted in many corporate organizations making efforts to break the Covid-19 chain, namely by reducing activities outside the home and providing Work From Home recommendations so that employees remain productive working in a pandemic situation. . Productivity is a factor that must be an important concern of company management.

Productivity is the ratio between output (output) and input (input), if productivity increases it is only possible by an increase in efficiency (time-material-labor) and work systems, production techniques and an increase in the skills of the workforce (Hamonangan, 2013) (Hasibuan, 2014). Meanwhile, according to (Ravianto, J, 2014), productivity is a measure of efficiency in the name of capital, materials, equipment or technology, human resource management, information and time used to produce goods and services. Productivity is defined as the relationship between output (goods or services) and inputs (labor, materials, money).

Increasing employee work productivity, especially during the Covid-19 pandemic, can be seen as a behavioral problem, but it can also contain technical aspects (Saefullah & Tabroni, 2021) (BRAMASTO, 2020). Overcoming this requires a proper understanding of the critical success factors in increasing employee productivity. Factors that affect employee productivity are leadership, compensation, work discipline, work environment and work supervision factors.

(Sondang Siagian P., 2000) states that leadership is the ability and skill of a person who occupies a position, the leader of a work unit who influences others, especially his subordinates and acts in such a way, so that through positive behavior he will make a real contribution to achieving organizational

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goals. Meanwhile, the definition of Compensation is an award in the form of financial and non-financial and services and facilities/facilities received by employees as part of the employment relationship. Compensation is a form of financial and non-financial rewards given to employees in exchange for their work (Saefullah, 2022).

The third factor is work discipline. Work discipline can be defined as an attitude of respect, respect, obedience and obedience to the applicable regulations, both written and unwritten and being able to carry it out and not evade receiving sanctions if he violates the duties and authorities given to him (Arianto & Kurniawan, 2020) (Sastrohadiwiryo, 2013). The fourth factor is the work environment. The work environment can be interpreted as the entire tooling faced, the surrounding environment in which a person works, work methods, and work arrangements both as individuals and as groups (Adha, Qomariah, & Hafidzi, 2019) (Arianto & Kurniawan, 2020) (Sedarmayanti, 2009).

The last factor that affects work productivity is work supervision. According to (Satriadi, 2016) work supervision is a process of a leader's activities to ensure that the implementation of organizational activities is in accordance with the plans, policies, and provisions that have been set.

2. Methods

This research was conducted at PT. "X" which is located in Serang, Banten. The population in this study were all employees of PT. "X" as many as 217 people. The sampling technique in this study is the purposive sampling method. That is, respondents (subjects) are selected randomly with certain characteristics that are believed to be representative of the research population. To get a representative sample, the researcher used the Slovin formula, so that the results obtained were 68 samples who would have the opportunity to represent the respondents. Data was collected using a questionnaire in accordance with the indicators of each variable used. The data obtained were then analyzed using the PLS method which is an alternative method of analysis with the Structural Equation Model (SEM) based on variance.

3. Result and Discussion

3.1 Data Analysis

The data analysis tool used to discuss the problems in this research is the Structural Equation Model (SEM) which is operated through the SmartPLS 3.0 program. The reason for using SEM is because the model that is analyzed is multilevel and relatively complex which is specifically designed to estimate structural equations on the basis of variance and also recursive effects (Ngatno, 2017) (Hastono, 2001) (Putra & Fiolyta, 2019). The structural model in this study is shown in the image below.

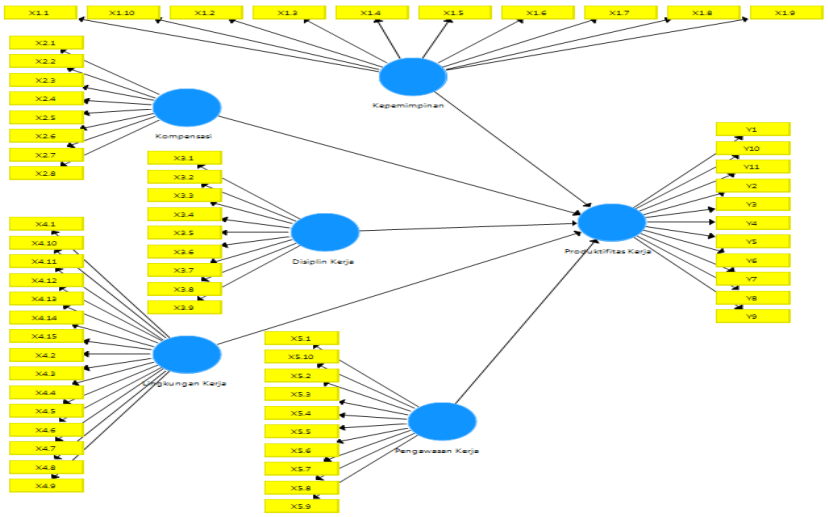

Figure 1. Structural Model of Research

The figure above shows that the Leadership variable is measured by 10 indicators, namely X1.1 to X1.10. Likewise, the compensation variable is measured by 8 indicators, namely X2.1 to X2.8. Work Discipline Variables are measured by 9 indicators, namely X3.1 to X3.9. Work Environment Variables are measured by 15 indicators, namely X4.1 to X4.15. Work Supervision variable is measured by 10 indicators, namely X5.1 to X5.10. The work productivity variable is measured by 11 indicators, namely Y1 to Y11. The direction of the arrow between the indicator and the latent construct is towards the indicator which shows that this study uses reflective indicators that are relatively suitable to measure perception. The relationship to be studied (hypothesis) is represented by arrows between constructs.

After knowing the structural model of the research, an evaluation of the model which consists of the Outer model and Inner model is carried out, while the results of the model evaluation are as follows:

a. *Outer Model Evaluation* (Measurement Model)

Evaluation of the measurement model is the evaluation of the relationship between the construct and its indicators. This evaluation goes through two stages, namely the evaluation of convergent validity and discriminant validity. Convergent validity includes (1) individual item reliability, (2) internal consistency or construct reliability, and (3) average variance extracted (AVE). Convergent validity measures the magnitude of the correlation between constructs and latent variables. In evaluating the convergent validity of individual item reliability checks, it can be seen from the standardized loading factor value. The recommended loading factor value is above 0.7, however, a loading score between 0.5 - 0.7 is still acceptable as long as the AVE score and communality indicators are > 0.5. If the indicator has a loading factor value < 0.6 then the indicator is removed from the model, because it is considered not to meet convergent validity. The following is a diagram of the loading factor of each indicator in this research model.

TABLE 1
VALIDITY VARIABLE POINT OF PURCHASE TEST

Variable	Indicator	Initial Model	Modification 1	Modification 2
Leadership	X1.1	0,710	0,722	0,722
	X1.2	0,824	0,821	0,821
	X1.3	0,818	0,840	0,840
	X1.4	0,792	0,793	0,793
	X1.5	0,811	0,817	0,817
	X1.6	0,846	0,850	0,851

Variable	Indicator	Initial Model	Modification 1	Modification 2
Compensation	X1.7	0,525		
	X1.8	0,766	0,743	0,743
	X1.9	0,785	0,770	0,770
	X1.10	0,631	0,651	0,651
	X2.1	0,858	0,864	0,864
	X2.2	0,914	0,914	0,914
	X2.3	0,911	0,913	0,913
	X2.4	0,936	0,935	0,935
	X2.5	0,901	0,900	0,900
	X2.6	0,909	0,908	0,909
	X2.7	0,905	0,901	0,902
	X2.8	0,891	0,887	0,888
Work Discipline	X3.1	0,630	0,863	0,865
	X3.2	0,714	0,838	0,836
	X3.3	0,577		
	X3.4	-0,192		
	X3.5	0,413		
	X3.6	0,408		
	X3.7	0,495		
	X3.8	0,458		
	X3.9	0,641	0,612	0,611
Work Environment	X4.1	0,878	0,907	
	X4.2	-0,029		
	X4.3	0,240		
	X4.4	0,748	0,766	0,854
	X4.5	-0,029		
	X4.6	0,285		
	X4.7	-0,215		
	X4.8	-0,245		
	X4.9	0,707	0,680	0,689
	X4.10	0,689	0,610	0,684
	X4.11	0,480		
	X4.12	0,638	0,539	
	X4.13	0,603	0,543	
	X4.14	0,610	0,605	0,621
	X4.15	0,350		
Work Supervision	X5.1	0,600	0,593	
	X5.2	0,783	0,766	0,746
	X5.3	0,794	0,789	0,779
	X5.4	0,772	0,766	0,779
	X5.5	0,650	0,670	0,695
	X5.6	0,700	0,708	0,719
	X5.7	0,669	0,683	0,664
	X5.8	0,728	0,723	0,732
	X5.9	0,687	0,685	0,729
	X5.10	0,764	0,771	0,795
Work Productivity	Y1	0,706	0,788	0,782
	Y2	0,605	0,635	0,626
	Y3	0,640	0,759	0,771
	Y4	-0,241		

Variable	Indicator	Initial Model	Modification 1	Modification 2
	Y5	-0,128		
	Y6	-0,222		
	Y7	0,199		
	Y8	0,476		
	Y9	0,429		
	Y10	-0,041		
	Y11	0,330		

Source : Data Analysis, 2022

The results of processing using SmartPLS 3.0 can be seen in Table 1. The value of the outer model or the correlation between the construct and the variable initially did not meet convergent validity because there were still quite a lot of indicators that had a loading factor value below 0.60.

Modification of the model is done twice by issuing indicators that have a loading factor value below 0.60. In the model modification 1 and modification 2 as shown in the table, it shows that all loading factors have values above 0.60, so the constructs for all variables have not been eliminated from the model.

After retesting 2 times by removing variable indicators that do not meet convergent validity, the loading factor diagram of each indicator in this research model can be seen in Figure 2 below:

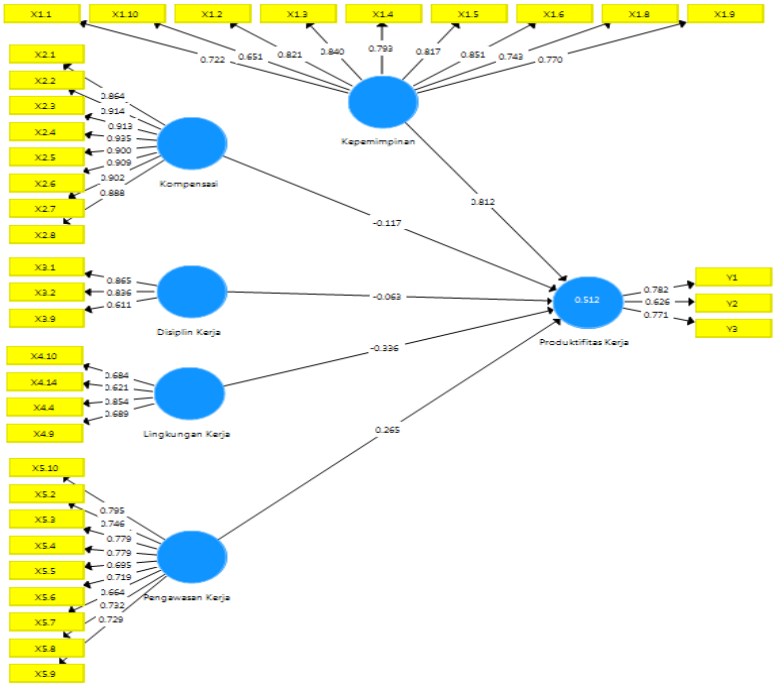

Figure 2. Loading Factor Value After Testing

The loading factor describes how much the indicators relate to each construct. The path diagram above shows that all indicators have a loading factor > 0.6 which means that all indicators are valid because the loading factor value meets the criteria. These results indicate that there is a good relationship between the indicators and each construct.

The second check of convergent validity is to look at the internal consistency reliability of the composite reliability (CR) value. The result is as follows:

TABLE 2
AVE AND CR RESULTS

Variabel	Composite Reliability	Average Variance Extracted (AVE)
Leadership	0,819	0,607
Compensation	0,973	0,816
Work Discipline	0,933	0,610
Work Environment	0,807	0,515
Work Supervision	0,915	0,546
Work Productivity	0,772	0,532

Source: PLS 3 Data Processing

Based on the table above, it can be concluded that the Composite Reliability value in the table above shows > 0.7, this indicates a high reliability of the measuring instrument. Thus, all constructs meet the reliable criteria.

The third check of convergent validity is to see the value of Average Variance Extracted (AVE). AVE values above 0.5 are highly recommended (Ghozali, 2013). From the table above, the AVE values for all constructs are > 0.5. The AVE value describes the variance or diversity of the manifest variables that the latent construct can have. Thus, the greater the variance or diversity of the manifest variables that can be contained by the latent construct, the greater the representation of the manifest variable on the latent construct.

After the evaluation of convergent validity is fulfilled, the next step is to examine the discriminant validity, namely cross loading and comparing with the AVE root with the correlation between constructs. Here are the results of the cross loading.

TABLE 3
CROSS LOADING RESULTS

	Leadership	Compensation	Work Discipline	Work Environment	Work Supervision	Work Productivity
X1.1	0,526					
X1.10	0,367					
X1.2	0,395					
X1.3	0,295					
X1.4	0,255					
X1.5	0,262					
X1.6	0,280					
X1.8	0,370					
X1.9	0,550					
X2.1		0,712				
X2.2		0,761				
X2.3		0,698				
X2.4		0,781				
X2.5		0,705				
X2.6		0,723				
X2.7		0,781				
X2.8		0,823				
X3.1			0,153			
X3.2			0,178			
X3.9			0,466			
X4.10				0,684		
X4.14				0,621		
X4.4				0,854		

X4.9	0,689		
X5.10		0,795	
X5.2		0,746	
X5.3		0,779	
X5.4		0,779	
X5.5		0,695	
X5.6		0,719	
X5.7		0,664	
X5.8		0,732	
X5.9		0,729	
Y1			0,782
Y2			0,626
Y3			0,771

Source: PLS 3 Data Processing

From the table above, it can be seen that several cross loading values for each indicator of each latent variable still have a cross loading value that is not the largest compared to the loading value when associated with other latent variables. This means that each latent variable does not yet have good discriminant validity where some latent variables still have gauges that are highly correlated with other constructs.

Another method to test discriminant validity is to compare the AVE value for each construct with the correlation between the construct and other constructs in the model. The model has sufficient discriminant validity if the AVE root for each construct is greater than the correlation between the construct and other constructs in the model. The result is as follows.

TABLE 4
AVE ROOT RESULT WITH CORRELATION BETWEEN CONSTRUCTS

Variable	Leadership	Compensation	Work Discipline	Work Environment	Work Supervision	Work Productivity
Leadership	0,779					
Compensation	0,461	0,781				
Work Discipline	0,297	0,828	0,903			
Work Environment	0,310	0,697	0,691	0,717		
Work Supervision	0,297	0,778	0,836	0,613	0,739	
Work Productivity	0,251	0,658	0,526	0,292	0,575	0,730

Source: PLS 3 Data Processing

Based on the data above, it shows that the AVE root for each construct is greater than the correlation between the construct and other constructs in the model so that all variables meet the requirements of good discriminant validity.

b. Evaluation of the Inner Model (Structural Model)

This examination includes the significance of (1) r-squared value, (2) path coefficient, and (3) T-statistics. The first step is to evaluate the value of R Square to see the results of the evaluation of the structural model. The value aims to determine how much the independent variable affects the dependent variable. Values can be seen in Table 5.

TABLE 5
R SQUARE VALUE

Construct	R Square	R Square Adjusted
Work Productivity	0,512	0,472

Source: PLS 3 Data Processing

Based on the table above, it can be seen that the R-Square value generated for the Work Productivity construct is 0.512 which means that the influence of the variables of Leadership (X1), Compensation (X2), Work Discipline (X3), Work Environment (X4) and Work Supervision (X5) is 51.2% and the remaining 48.8% is influenced by other variables outside this research model.

The next step is to evaluate the structural model by looking at the significance of the relationship between the constructs/variables. This can be seen from the path coefficient which describes the strength of the relationship between constructs. The path coefficient results can be seen in Table 6.

TABLE 6
PATH COEFFICIENTS

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Leadership ➔ Work Productivity	0,812	0,729	0,188	4,319	0,000
Compensation ➔ Work Productivity	-0,117	-0,167	0,237	0,495	0,621
Work Discipline ➔ Work productivity	-0,063	-0,021	0,118	0,536	0,592
Work Environment ➔ Work Productivity	-0,336	-0,225	0,164	2,048	0,041
Work Supervision ➔ Work Productivity	0,265	0,307	0,165	1,608	0,108

Source: PLS 3 Data Processing

Based on the table above, it can be seen that the relationship test between constructs shows that there are two significant relationships, namely Leadership -> Work Productivity and Work Environment -> Work Productivity which has a t-statistic value > 1.96. Then there are three insignificant relationships, namely Work Discipline -> Work Productivity; Compensation -> Work Productivity; and Work Supervision -> Work Productivity which has a t-statistic value < 1.96.

3.2 Hypothesis Test

Based on the Path Coefficients Result Table that has been stated above, hypothesis testing can be carried out. Tests were carried out on 5 proposed hypotheses. Hypothesis testing is done by using the t-value with a significance level of 0.05. If the t-statistict value > 1.96 or p-value < 0.05 then it is rejected [the research hypothesis is accepted].

H1 : The table above shows that the relationship between Leadership and Work Productivity is significant with a T-statistic of 4,319 (> 1,996) and a p-value of 0.000 (< 0.05) with the original sample value being positive, which means that Leadership has a positive and significant effect on Work Productivity. Thus, hypothesis 1 in this study is accepted.

H2 : The table above shows that the relationship between compensation and work productivity is not significant with a T-statistic value of 0.495 (<1.996) and a p-value of 0.621 (> 0.05) with the original sample value being negative, which means that compensation has no effect on work productivity. Thus, hypothesis 2 in this study was rejected.

H3 : The table above shows that the relationship between Work Discipline and Work Productivity is not significant with a T-statistic of 0.536 (< 1.996) and a p-value of 0.592 (> 0.05) with the original sample value being negative, which means that Work Discipline has no effect on Work Productivity. Thus, hypothesis 3 in this study is rejected.

H4 : The table above shows that the relationship between Work Environment and Work Productivity is significant with a T-statistic of 2,048 (> 1,996) and a p-value of 0.041 (< 0.05) with the original sample value being negative, which means that the Work Environment has a negative and significant effect on Work productivity. Thus, hypothesis 4 in this study is accepted.

H5 : The table above shows that the relationship between Work Supervision and Work Productivity is not significant with a T-statistic of 1.608 (<1.996) and a p-value of 0.108 (>0.05) with the original sample value being positive, which means that Work Supervision has no effect on Work Productivity. Thus, hypothesis 5 in this study was rejected.

TABLE 7
CONCLUSION OF HYPTOTHESIS TEST RESULTS

Hypothesis	Coefficient Path	Results
H1	Leadership ➔ Work Productivity	Accepted
H2	Compensation ➔ Work Productivity	Rejected
H3	Work Discipline ➔ Work Productivity	Rejected
H4	Work Environment ➔ Work Productivity	Accepted
H5	Work Supervision ➔ Work Productivity	Rejected

Based on the conclusion of hypothesis testing, there are two accepted hypotheses, namely H1 and H4 and three rejected hypotheses, namely H2, H3 and H5.

3.3 Discussion

a. Leadership Affects Work Productivity

Based on the results of hypothesis testing with a T-statistic value of 4,319 (> 1,996) and a p-value of 0.000 (< 0.05) with the original sample value being positive, it means that leadership has a positive and significant influence on work productivity.

This is in accordance with the results of the CPA, that the leadership applied by the leader, where the leader is able to take an interpersonal approach to subordinates so that subordinates feel happy and satisfied with the ways superiors in directing employees broadly and provide motivation to achieve the targets set by the company.

b. Compensation Has No Effect on Work Productivity

Based on the results of hypothesis testing with a T-statistic value of 0.495 (<1.996) and a p-value of 0.621 (> 0.05) with a negative value of the original sample, it proves that compensation has no significant effect on work productivity.

c. Work Discipline Has No Effect on Work Productivity

Based on the results of hypothesis testing with a T-statistic value of 0.536 (< 1.996) and a p-value of 0.592 (> 0.05) with the original sample value being negative, it means that Work Discipline has no significant effect on Work Productivity.

d. Work Environment Affects Work Productivity

Based on the results of hypothesis testing with a T-statistic value of 2,048 (> 1,996) and a p-value of 0.041 (< 0.05) with the original sample value being negative, it means that the Work Environment has a negative and significant effect on Work Productivity.

A good work environment has an important role in increasing employee productivity in the company. Because the work environment is one thing that can motivate employees to work very well. A good work environment can be seen from the work atmosphere (which includes adequate lighting, good air circulation, noise, use of color, space required, ability to work and employee relations with other employees), from the condition of employee relations and availability other supporting facilities.

e. Work Supervision Has No Effect on Work Productivity

Based on the results of hypothesis testing with a T-statistical value of 1.608 (<1.996) and a p-value of 0.108 (>0.05) with a positive value for the original sample which proves that work supervision has no significant effect on work productivity.

f. The Influence of Leadership, Compensation, Work Discipline, Work Environment and Work Supervision on Work Productivity

Based on the R-Square value generated for the Work Productivity construct of 0.512 which means that the influence of the variables Leadership (X1), Compensation (X2), Work Discipline (X3), Work Environment (X4) and Work Supervision (X5) is 51.2% and the remaining 48.8% is influenced by other variables outside this research model.

4. Conclusions

Leadership (X1) has a positive an significant effect on Work Productivity (Y), Compensation (X2) has no significant effect on Work Productivity (Y), work Discipline (X3) has no significant effect on Work Productivity (Y), work Environment (X4) has a negative an significant effect on Work Productivity (Y), work Supervision (X5) has no significant effect on Work Productivity (Y), leadership, Compensation, Work Discipline, Work Environment and Work Supervision have an influence contribution of 51.2% to Work Productivity.

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