



Influence of work competence and work environment on employee productivity

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ABSTRACT

This research was conducted at PT. Lutvindo Wijaya Perkasa Pekanbaru. The purpose of this study was to determine the effect of work competence and work environment on work productivity at PT. Lutvindo Wijaya Perkasa Pekanbaru. Work competence and work environment as the Independent Variables (X) while work productivity is the Dependent Variable (Y). The problem in this study is the work productivity of employees who experience fluctuating numbers. The sample for this research was taken as many as 92 respondents from 120 populations which were calculated using the Slovin formula. The data obtained from the results of the questionnaires were distributed using a simple random sampling technique and then processed to then be tested statistically through SPSS 25 account= 13.749 > table 1.987 and sig 0.000 <0.05, then the work environment has a positive and significant effect on work productivity, where tcount= 13.461table 1.987 and sig 0.000 <0.05, as well as work competence and work environment on employee work productivity, where the value of fcaccount148,824 > ftable (3.10), and the significance value (0.000) <0.05.

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INTRODUCTION

Human resources have a very important role in the effectiveness of the running of a company. Human resources are the focus and foundation for companies to survive in the current era of globalization. Without the support of reliable human resources, company activities will not be completed properly. This shows that human resources are a science and art that regulates the relationship and role of the workforce and that it is effective and efficient in helping the realization of a company and employee goals (Hasibuan, 2012). Every company in carrying out activities or production will always be dealing with humans as a company resource that is dynamic and can continue to grow. The development of human capacitance will affect the company's productivity. This is based on the fact that humans are the operational technical implementers of the running of a company. If the quality and ability of human resources are high, then the quality of results in an organization will be even higher. Employees expected by the organization are of course employees who can work productively, namely those who are capable of producing optimal work productivity

as planned.

According to Simanjuntak (2003), employee productivity is the comparison between the results achieved (output) with the overall resources (input) consisting of several factors such as land, buildings, machine tools, and human resources which are strategic targets due to increased productivity because work productivity reflects the success or failure in achieving effectiveness and efficiency of performance about the use of resources. Within the scope of the company, work productivity plays an important role, because the company's progress is determined by its work productivity. So, a form that can increase employee work productivity is to increase work competence and pay attention to the work environment of employees in the company.

Several factors can affect employee work productivity, work competence is one of the factors that can affect employee work productivity. Competence is one of the foundations for human resources in carrying out their duties. Competence is needed by companies to increase employee work productivity. According to Sedarmayanti (2014), competency is part of a person's personality that is deep and inherent in predictable behavior in various circumstances and work. Competence is a determining factor for someone in the product in a good performance to determine the results and success of an organization or company. If someone has high competence from within his personality then this can increase employee work productivity. On the contrary,

Sedarmayanti, (2007) argues that job competence is the main determining variable for a person in producing extraordinary work productivity. Therefore, the competence possessed by employees greatly influences the productivity targeted by a company. Nonetheless, knowledge and skill competencies are relatively easier to develop through training in the most effective way to guarantee employee capabilities. Knowledge and skill competencies tend to be more visible and easier to improve than other competency characteristics that are deeper and hidden within a person.

Based on previous research conducted by Iswadi, (2020), the results of the study stated that there was a significant influence between competence on employee productivity at PT.ISS Cilegon branch.

Besides Competence, a factor that can influence employee work productivity is the work environment. According to Sofyan (2013), the work environment is everything that is around employees that influences them in carrying out and completing the tasks assigned to them in an area. Because the work environment is where employees carry out all their work activities every day. The work environment plays an important role in company activities. With a comfortable and conducive work environment, it is hoped that it will be able to provide comfort and will encourage employees to work more actively and automatically achieve the expected productivity of the company.

An inadequate work environment can reduce enthusiasm for work and result in decreased employee productivity. Therefore, the work environment for employees will have no small impact on the course of company operations because it can directly affect employee enthusiasm and work environment factors have a bearing on supporting productivity. A comfortable and conducive work environment is born from the awareness of employees and leaders in the company so these two parties need to create this work environment. The problem that is often faced by companies is decreased employee productivity due to an uncomfortable work environment.

Based on previous research conducted by Damastara & Sitohang (2020), the results of the study stated that the work environment has a positive and significant effect on employee work productivity at PT. Eka Karunia Motor Surabaya.

The physical condition of the work environment can affect the non-physical work environment. While non-physically the work environment is in the form of pleasant co-workers, communication between fellow employees, and smooth communication between leaders and employees too create pleasant working conditions. Because a work environment that poses a lot of risks or does not support the implementation of assigned tasks will cause feelings of uneasiness and discomfort. This can also cause psychological pressure on employees which can lead to stress and burnout

Thus, it can be concluded that Work Competence and Employee Work Environment are related to each other in achieving productivity in the company. Based on the description above, the writer is interested in conducting research with the title "The Influence of Work Competence and Work Environment on Employee Productivity (Study of PT. Lutvindo Wijaya Perkasa Production Department in Pekanbaru Area)"

RESEARCH METHOD

Object of research

This research was conducted at PT. Lutvindo Wijaya Perkasa Pekanbaru, which is located on Jl. Garuda Sakti KM 6 Kec. Handsome, Pekanbaru City, Riau has a research focus for understanding and knowing the influence of competence and work environment on work productivity at PT employees Lutvindo Wijaya Perkasa Pekanbaru Region.

Population and Sample

The population taken in this study fielded employees in the production division of PT. Lutvindo Wijaya Perkasa Pekanbaru totaling 120 people and sampling using a random sampling technique (Sugiyono, 2017) where the sample and population are taken randomly without regard to the strata in the population. The research sample used was 92 employees.

Data types and sources

Types of research, this research is survey research using a descriptive and quantitative approach. (Saptutyningsih and Setyaningrum. 2019), consists of two independent variables namely Work Competence as a variable (X1), Work environment as a variable, (X2), and Work productivity as a variable (Y). Data source, in this research, the data sources used are primary data sources in the form of data sources that directly provide data to data collectors (Sugiyono.2019). In this study, the data were obtained by questionnaire and interviews with key informants.

Method of collecting data

The data collection method used in this study was a questionnaire using the Likert scale.

Data analysis technique

The data analysis technique used to solve the problems in this study is multiple instrument test Linear regression analysis, coefficient of determination test (Adjusted R Square), F test, and test. This research discusses Work Competency Work environment on employee work productivity.

Data analysis

Data analysis involves applying various statistical techniques to gain insights and draw conclusions from the data. In the context of the information provided, there are two types of regression analysis mentioned. Simple linear regression focuses on establishing a linear relationship between a single independent variable, such as work competency or work environment, and the dependent variable, which is work productivity. On the other hand, multiple linear regression is used when predicting the impact of multiple independent variables on the dependent variable, taking into account how changes in these predictors, such as manipulation of their values, affect the outcome. These regression techniques allow researchers to examine relationships and make precise predictions based on existing data.

Determination Coefficient Test (R²)

The coefficient of determination, also known as R², is a measure used to assess the extent to which a model can explain the variations in the dependent variable, in this case, work productivity.

Hypothesis testing plays a crucial role in analyzing the statistical significance of the independent variables. The partial test, or t-test, is utilized to evaluate the individual effects of the independent variables on the dependent variable. It allows researchers to determine whether each independent variable has a significant impact on the outcome. Conversely, the simultaneous test, or F-test, examines whether a combination of two or more variables, as determined by the regression equation, collectively exerts a significant influence on the dependent variable. These hypothesis tests provide valuable insights into the relationship between the independent and dependent variables and help assess the overall effectiveness of the regression model.

RESULTS AND DISCUSSIONS

Following are the responses from each respondent to the variables determined by the researcher including the variables of Work Competence (X1), Work Environment (X2), and Employee Productivity (Y). From the results of the answers of 92 respondents with a Likert scale of 1-5 which have been processed, the statistical measures are as follows:

Table 1. Description of Work Competency Variables

Variable	Dimensions	Indicator	Amount	Score	Category
Work Competency (X1)	Knowledge	X1.1 I know the training that has been carried out by the company according to the field	184	646	Good
		X1.2 I got the course related to the field handled			
	Skills/skills	X1.3 I have expertise in the fieldwork handled as well able to handle it in detail	184	639	Good
		X1.4 I can solve the problem according to established standards by the company			
		X1.5 I have an honest attitude in carrying out work			
	Attitude	X1.6 I have a polite attitude in acting in the company	184	649	Good

Source: Processed Primary Data

The table above shows the answers from research respondents regarding statement items in each dimension on the work competencies of PT. Lutvindo Wijaya Perkasa Pekanbaru. It can be seen that the attitude dimension has the highest score of 649 in the good category and the skills dimension has the lowest score of 639. In this category, it can be interpreted that the work competence of the production employees of PT. Lutvindo Wijaya Perkasa is good. This is evidenced by the results of research on production employees of PT. Lutvindo Wijaya Perkasa Pekanbaru gave many answers agreeing rather than disagreeing.

Table 2. Description of Work Environment Variables (X2)

Variable	Dimensions	Indicator	Amount	Score	Category
Work Environment (X2)	Physical Work Environment	X2.1 I think the scope of work. in the field under that condition Good	182	658	Good
	Work Environment	X2.2 I think the company has working facilities complete			
	Non-Physical Work Environment	X2.3 I have a relationship/good communication with the leadership of the company	184	647	Good

Source: Processed Primary Data

The table above shows the answers from research respondents regarding statement items in each dimension into work environment of PT. Lutvindo Wijaya Perkasa Pekanbaru. It can be seen that the dimension of the Physical Work Environment has the highest score of 658 in the good

category and the dimension of the Non-Physical Work Environment has the lowest score of 647. In this category, it can be interpreted that the work environment for production employees of PT. Lutvindo Wijaya Perkasa is good. This is evidenced by the results of research on production employees of PT. Lutvindo Wijaya Perkasa Pekanbaru gave many answers agreeing rather than disagreeing.

Table 3. Description of Work Productivity (Y)

Variable	Dimensions	Indicator	Amount	Score	Category
Work Productivity (Y)	Working Quantity	Y.1 I am able to meet standards that have been set by the company	184	622	Pretty good
		Y.2 I am able to work according to the SOP that is enforced at the company			
	Work Quality	Y.3 I am able to achieve standard quality results company has set	184	617	Pretty good
		Y.4 I am able to complete the work technically			
	Punctuality	Y.5 I have skills time at work	184	613	Pretty good
		Y.6 I am always consistent at work			

Source: Processed Primary Data

The table above shows the answers from research respondents regarding statement items in each dimension of work productivity from PT. Lutvindo Wijaya Perkasa Pekanbaru. It can be seen that the quantity of work dimension has the highest score of 622 in the good category and the punctuality dimension has the lowest score of 613. In this category, it can be interpreted that the work productivity of the production employees of PT. Lutvindo Wijaya Perkasa is quite good. This is proven by the results of research on production employees of PT. Lutvindo Wijaya Perkasa Pekanbaru, so work productivity in the company must be increased.

VALIDITY TEST

Table 4. Validity Test of Work Competency Variables (X1)

Dimensions	No Statement Items	rcount	rtable	Information
Knowledge	X1_1	0.796	0.1726	Valid
	X1_2	0.829	0.1726	Valid
Skills / Skills	X1_3	0.782	0.1726	Valid
	X1_4	0.757	0.1726	Valid
Attitude	X1_5	0.686	0.1726	Valid
	X1_6	0.662	0.1726	Valid

Source: SPSS Processed Data, 2023

In the table, it can be observed that all statement items used to measure the dimensions of the work competency variable (X1) show the overall rcount > rtable so that all statement items are declared valid and can be used.

Table 5. Validity Test on Work Environment Variables

Dimensions	No Statement Items	rcount	rtable	Information
Physical work environment	X2_1	0.807	0.1726	Valid
	X2_2	0.835	0.1726	Valid
Non-Physical Work Environment	X2_3	0.852	0.1726	Valid
	X2_4	0.783	0.1726	Valid

Source: SPSS Processed Data, 2023

In the table, it can be observed that all statement items used to measure the dimensions of the work environment variable (X2) show the overall rcount > rtable so that all statement items are declared valid and can be used.

Table 6. Validity Test on Work Productivity Variables

Dimensions	Item No Statement	rcount	rtable	Information
Working Quantity	Y_1	0.571	0.1726	Valid
	Y_2	0.626	0.1726	Valid
Work Quality	Y_3	0.728	0.1726	Valid
	Y_4	0.762	0.1726	Valid
Punctuality	Y_5	0.794	0.1726	Valid
	Y_6	0.766	0.1726	Valid

Source: SPSS Processed Data, 2023

In the table, it can be observed that all statement items used to measure the dimensions of the Work Productivity variable (Y) show the overall rcount > rtable so that all statement items are declared valid and can be used.

RELIABILITY TEST

Table 7. Questionnaire Reliability Test Results

No	Variable	Reliability	Cronbach's Alpha	Information
1.	Job competence	0.60	0.848	Reliable
2.	Ape Environment	0.60	0.836	Reliable
3.	Work productivity	0.60	0.805	Reliable

Source: SPSS Processed Data, 2023

In the table, it can be observed that the results of the study stated the reliability of the variables used showing all Cronbach's Alpha values > 0.60. So, it can be concluded that the answers to the statements of all the variables used in this study are reliable and feasible to use.

Table 8. Test of Simple Linear Regression Analysis of Work Competence on Work Productivity

Coefficients ^a						
Model		Unstandardized Coefficient:		Standardized	t	Sig.
		B	std. Error	Coefficients		
1	(Constant)	5,242	1,092		4,799	.000
	TOTAL_X1	.708	.051	.824	13,794	.000

a. Dependent Variable: TOTAL_Y

The meaning of the numbers in the simple linear regression equation in the table is as follows:

- a. The constant value (a) is 5,242, meaning that if the work competency variable is assumed to be 0, then the volume value of work productivity is positive, which is equal to 5,242.
- b. The regression coefficient of the work competency variable is 0.708, meaning that if the work competency variable increases by 1 unit, work productivity will increase by 0.708. The coefficient is positive, meaning that there is a positive relationship between work competence and work productivity. The better the work competence, the higher

Coefficient of Determination (R2)

The coefficient of determination test (R2) is to show the level of strength of the relationship between the independent variable and the dependent variable or in other words how much X can contribute

to Y. The greater the R2 (close to 1), the influence of the independent variable is considered strong, and vice versa. This percentage shows how much the work competency variable can influence the variable on work productivity.

Table 9. Test of the Coefficient of Determination (R2) of Work Competence on Work Productivity

Model	Summary models			Std. Error of the Estimate
	R	R Square	Adjusted RR square	
1	.824 ^a	.679	.675	1612

a. Predictors: (Constant), TOTAL_X1

Source: SPSS Processed Data, 2023

Basis for decision making:

The coefficient of determination test can be observed from the R Square value and converted into a percentage. In accordance with the SPSS output above, it can be observed that the R Square value is 0.770, which means that the overall work competence and work environment variables affect the productivity variable by 77%, while the remaining 33% is influenced by other variables not examined in this study.

Partial Test (T Test)

Partial test (T test) is the result of research by means of a partial hypothesis regarding the parameter regression coefficient which intends to find out whether the independent variable has a clear influence on the dependent variable. This test is carried out by comparing the t count value with the t table value. To find out the ttable, you can use equal degrees of freedom (df) by calculating:

$$t_{table} = n - k \quad \alpha/1 = 92 - 2 : 0.05/1$$

$$= 90 : 0.05/1$$

$$= 0.1726$$

Where:

Df = degrees of freedom

a = number of respondents

k = number of independent variables

The results of the work competency variable T test on work productivity can be observed in the following table:

Table 10. Partial Test (T-Test) of Work Competency Variables on Work Productivity

Model		Coefficients ^a		Standardized Coefficients Betas	Q	Sig.
		Unstandardized Coefficients B	std. Error			
1	(Constant)	5,242	1,092		4,799	.000
	TOTAL_X1	.708	051	.824	13,794	.000

a. Dependent Variable: TOTAL_Y

Source: SPSS Processed Data, 2023

The statistical test table in the table can be seen from the results of the t-count test to test the hypothesis of whether there is a significant effect of the work competency variable (X1) on the Productivity variable (Y), which is 13,794. Where $t_{count} = 13,794 > t_{table} = 0.1726$ As well as $sig < 0.000 < 0.05$, with tcount greater than ttable, the hypothesis states that work competence affects work productivity at PT. Lutvindo Wijaya Perkasa Pekanbaru employees.

The Influence of the Work Environment on Work Productivity Simple Linear Regression Test

Simple linear regression analysis is used to analyze the influence relationship between one independent variable, namely the work environment (X₂) on the dependent variable, namely work productivity (Y) at PT. Lutvindo Wijaya Perkasa Pekanbaru. In accordance with the results of calculations using the SPSS program, the following data is obtained:

Table 11. Simple Linear Regression Analysis on Work Environment on Work Productivity

Model		Coefficients ^a			Q	Sig.
		Unstandardized Coefficients	std. Error	Standardized Coefficients		
		B		Betas		
1	(Constant)	6,975	.992		7,031	.000
	TOTAL_X2	.927	.069	.817	13,461	.000

a. Dependent Variable: TOTAL_Y

Source: SPSS Processed Data, 2023

CONCLUSION

Based on research on employees of PT Lutvindo Wijaya Perkasa Pekanbaru regarding "The Effect of Work Competence and Work Environment on Employee Productivity (Study at PT Lutvindo Wijaya Perkasa Pekanbaru Region)", the conclusions are as follows: Overall, work competence and work environment at PT Lutvindo Wijaya Perkasa Pekanbaru are in the "good" category. This shows that the knowledge, skills, attitudes, and physical and non-physical work environment in the company have been implemented well and in accordance with employee expectations. In addition, there is a significant influence partially or simultaneously between work competence and work environment on the work productivity of production employees at PT Lutvindo Wijaya Perkasa Pekanbaru, which means that the better work competence and work environment, the productivity of employees will also increase. For future development of this research to obtain better results, suggestions that can be considered include expanding the research sample by involving more companies and industrial sectors, conducting more detailed data collection through in-depth interviews, taking into account contextual factors that may affect the relationship between the variables studied, using experimental research methods to test cause-and-effect relationships, and involving mediator and moderator variables in the analysis. By implementing these suggestions, it is hoped that future research can provide a more comprehensive and in-depth understanding of the effect of work competence and work environment on employee productivity.

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