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THE EFFECT OF MOTIVATION AND WORK ENVIRONMENT ON EMPLOYEE PRODUCTIVITY OF PT XYZ (Case Study in Assembly Plant C Department)

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ABSTRACT

Every business unit wants high productivity because from that each business unit pays enough attention to the level of business productivity. Productivity is influenced by several factors, including motivation and work environment. This study aims to determine the direct influence between motivation and work environment on employee productivity and the indirect influence between motivation and work environment on employee productivity. This research was conducted at PT XYZ in Karawang Regency. The total sample taken was 150 respondents/employees from 240 existing populations. Data collection in this study was carried out through observation and questionnaires/questionnaires / written interviews. The data analysis technique carried out in this study was by path analysis of the application program using SPSS 26.0. Based on the results of the analysis found: 1). There is a correlation between the motivation variable (X1) and the work environment (X2) and has a fairly strong relationship. 2). The partial influence of the motivation variable (X1) on employee productivity (Y). 3). There is a partial influence of work environment variables (X2) on employee productivity (Y). 4). There is a significant simultaneous influence between motivation (X1) and work environment (X2) on employee productivity (Y).

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1. INTRODUCTION

The success of a company is determined by human resources, because without human resources, the company will find it difficult to achieve its goals. Good and optimal human resources will be immediately clearly visible progress and success in achieving company goals. Human resources are a very important factor in a company or organization, this is because human resources are a tool for driving the operation of a business with all facilities available in achieving predetermined goals. (Tampi 2016)

Seeing the importance of the role of human resources as assets to realize company goals, a serious effort is needed in managing human resources in a company and this is a tough challenge that must be faced by a manager, namely how he can move his employees to always be willing to exert their best abilities for the benefit of the organization in order to achieve the goals of the organization. This phenomenon has inevitably encouraged companies to pay attention to increasing the loyalty of their workers with the aim of increasing the productivity of these employees. (Fadillah, Djoko W, and Budiatmo 2013)

According to (Purnami and Utama 2019) Employee productivity is the ability to improve work results and to achieve certain tasks in accordance with the standards set by the company. And according to Sutrisno (2009:99) in the article (Firdiyanti 2017) suggests that productivity is a measure of productive efficiency, or a comparison between output and input results. Labor productivity is basically influenced by several factors, in some studies and literature it states that among them is motivation.

According to Wursanto in the 3in1 management introduction book, motivation is the entire process of providing motivation or encouragement to employees so that these employees are willing and happy to work so that organizational goals can run effectively and efficiently. Based on Abraham Maslow's Hierarchy of Needs Theory, Douglas McGregor's X and Y Theory, and Contemporary Motivation Theory, motivation is a reason that underlies an act done by a person. A person is said to be highly motivated can be interpreted as the person has a very strong reason to achieve what he wants by doing his current job. (Andri, Endang 2015).

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Meanwhile, according to (Budi Rismayadi; Adi Komarudin 2020) Motivation is one of the things that channel, causes and supports human behavior in order to work hard and enthusiastically to achieve optimal results. Providing motivation to employees is indispensable in the company. So that employees have a passion for work and produce targets that are in accordance with the wishes of the company. Employees who are highly motivated can make a positive contribution to the company and have a sense of responsibility to their work.

In addition to motivation, according to Ahyari (2011: 124) the work environment is a condition where employees carry out and carry out their duties and work every day. The work environment is an important factor in creating conducive conditions for employees to do work. Employees need a healthy, safe and comfortable work environment. A sense of comfort at work will have a positive impact on employees, namely being able to reduce stress levels and being able to increase concentration at work so that employees can work optimally and employee productivity will always be maintained. (Fadillah, Djoko W, and Budiatmo 2013).

According to Senata et al. (2014) in (Purnami and Utama 2019) the benefit of the work environment is to create passion so that employee work productivity increases. A conducive and comfortable work environment will affect the morale of employees so that employees are motivated to achieve the targets that the company is aiming for (MAYRA 2018). And according to (Subagyo 2014) the work environment is everything around employees that can affect employee performance in carrying out their work, so as to obtain maximum results. The work environment is a condition that exists in the workplace, both physical and non-physical, which can affect employees in carrying out their work.

At PT. XYZ has a production department that is divided into several parts including Nosew, Stockfit, Cutting Preparation, Sewing, and Assembly. This research takes data from permanent employees of the production department of the *assembly* section, because the production employees in this section are very concerned about the quality and quantity of their products because this part that is used as a reference for an item can be exported according to schedule or not, this part is the last process of assembling shoes to then be re-checked by QC before being stored at finish good, This part is prone to make mistakes at the time of production, so it can result in export failure or delay. The resulting product sometimes does not comply with specifications and the amount of production does not match the predetermined targets of the company and can affect the work productivity of employees. The following is a picture of the production targets in the assembly department.

Date		10/3	10/4	10/5	10/6	10/7	10/10	10/11	10/12	10/13	10/14	10/17	10/18	10/19	10/20	10/21	10/24	10/25	10/26	10/27	TOTAL 10/3-1027
		Mon	Tue	Wed	Thu	Fri	Mon	Tue	Wed	Thu	Fri	Mon	Tue	Wed	Thu	Fri	Mon	Tue	Wed	Thu	#
Working hour/day	Actual	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
Working hour/day	Plan	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
L01	Daily	1,000	1,000	1,000	1,000	1,000	1,504	1,504	1,504	1,504	1,504	1,800	1,800	1,800	1,800	1,800	2,000	2,000	2,000	2,000	29,520
L02	Daily	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	38,000
L03	Daily	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	38,000
L05	Daily	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	38,000
L06	Daily	360	360	360	360	360	720	720	720	720	720	1,080	1,080	1,080	1,080	1,080	1,440	1,440	1,440	1,440	16,560
Total Guarantee/day (Ori)		7,360	7,360	7,360	7,360	7,360	8,224	8,224	8,224	8,224	8,224	8,880	8,880	8,880	8,880	8,880	9,440	9,440	9,440	9,440	160,080
L01		1,089	1,146	977	1,114	1,170	1,229	856	1,306	1,327	1,506	1,417	1,805	1,465	1,811	1,804	1,306	1,861	2,000	1,754	26,943
L02		2,244	2,242	2,162	2,216	2,248	2,379	2,275	2,401	2,226	1,996	1,987	2,298	2,096	2,220	1,987	2,303	2,426	2,080	1,820	41,606
L03		1,844	1,870	2,165	1,960	2,170	2,192	2,146	2,124	2,201	2,148	2,012	1,786	2,318	2,297	1,854	2,296	2,196	2,061	2,126	39,766
L05		2,020	1,990	1,776	1,992	1,493	1,587	1,939	1,942	1,893	1,744	1,907	2,082	1,888	2,212	2,109	2,194	2,178	2,317	2,221	37,484
L06		339	192	360	360	360	420	720	720	720	920	898	1,349	1,348	1,210	999	1,261	1,142	1,142	1,345	15,805
Total Actual output		7,536	7,440	7,440	7,642	7,441	7,807	7,936	8,493	8,367	8,314	8,221	9,320	9,115	9,750	8,753	9,360	9,803	9,600	9,266	161,604
L01		89	146	-23	114	170	-275	-648	-198	-177	2	-383	5	-335	11	4	-694	-139	0	-246	-2,577
L02		244	242	162	216	248	379	275	401	226	-4	-13	298	96	220	-13	303	426	80	-180	3,606
L03		-156	-130	165	-40	170	192	146	124	201	148	12	-214	318	297	-146	296	196	61	126	1,766
L05		20	-10	-224	-8	-507	-413	-61	-58	-107	-256	-93	82	-112	212	109	194	178	317	221	-516
L06		-21	-168	0	0	0	-300	0	0	0	200	-182	269	268	130	-81	-179	-298	-298	-95	-755
GAP		176	80	80	282	81	-417	-288	269	143	90	-659	440	235	870	-127	-80	363	160	-174	1,524
GAP acumulative		176	256	336	618	699	282	-6	263	406	496	-163	277	512	1,382	1,255	1,175	1,538	1,698	1,524	3,048

Figure 1. Production Targets

In the picture above, it can be seen that what happened to PT XYZ Karawang is a decrease in production output that is not in accordance with the target that has been set, this decrease in productivity can be caused by many factors including motivation factors in work and the work environment in the workplace. With this, the author will focus more on the human resource factor owned by PT. XYZ Karawang especially in the assembly production section. Fo

2. METHODS

The free variables in this study are motivation and work environment, while the bound variables are productivity. This research instrument is in the form of a questionnaire while the population in this study is employees in the *assembly plant department C* PT. XYZ Karawang has 240 employees. The number of samples in this study was determined using the Slovin formula so that 150 people were selected to be samples. In data analysis using path analysis or path analysis with the SPSS 26.0 application program. Scale the measurement using *Likert*. The Validity test uses *Product Moment* correlation, while the reliability test with *Cronbach's Alpha*.

This research study uses a quantitative approach. Sugiyono (2014.8) argues that quantitative research methods are research methods based on the philosophy of positivism, used to research on certain populations or samples, analysis Data are statistically quantitative, with the aim of testing predetermined hypotheses. In this study, the author examined the influence of motivation and work environment on employee productivity in the Assembly department of PT XYZ Karawang.

In this study, the author took 6 months, namely from July 2022 to January 2023. The place of this research is at PT XYZ Karawang. The company is engaged in footwear, leather and rubber manufacturers of sports shoes. Established in Karawang Regency, West Java.

3. RESULTS AND DISCUSSION

Research Results

This research was conducted at PT XYZ Karawag in July 2022 to Juanuari 2023. This research is about the influence of motivation and work environment on employee productivity, which is carried out through direct observation in the form of distributing questionnaires to several employees who is in it. The total number of employees in the section is 240 people. The number of questionnaires distributed was 150 questionnaires and all questions in the questionnaire were filled out completely by respondents.

Data valid Test

In order for the data to be declared valid or absah it is necessary to test first, using validity and reliability tests to find out whether the instrument can be continued for testing or not. This study uses *path analysis* to test the validity of each instrument item , in the validity test each instrument is said to be valid if r count it > 0.361. And to test reliability it is said to be *realible* if *Cronbach's Alpha* > 0.600.

Validity Test And Reliabilliarity

Table 1 Validity Test

Variable	Items	r Count	r Critical	Information
Motivation	X1.1	0.053	0,361	Invalid
	X1.2	0.094	0,361	Invalid
	X1.3	0.646	0,361	Valid
	X1.4	0.749	0,361	Valid
	X1.5	0.681	0,361	Valid
	X1.6	0.699	0,361	Valid
	X1.7	0.857	0,361	Valid
	X1.8	0.744	0,361	Valid
	X1.9	0.749	0,361	Valid
	X1.10	0.691	0,361	Valid
	X1.11	0.756	0,361	Valid
Work Environment	X2.1	0.614	0,361	Valid
	X2.2	0.887	0,361	Valid
	X2.3	0.836	0,361	Valid
	X2.4	0.658	0,361	Valid
	X2.5	0.734	0,361	Valid
	X2.6	-0.194	0,361	Invalid
	X2.7	0.776	0,361	Valid
	X2.8	0.740	0,361	Valid
	X2.9	0.687	0,361	Valid
	X2.10	0.739	0,361	Valid
	X2.11	0.802	0,361	Valid

Productivity	Y1	0.625	0,361	Valid
	Y2	0.835	0,361	Valid
	Y3	0.899	0,361	Valid
	Y4	0.827	0,361	Valid
	Y5	0.823	0,361	Valid
	Y6	0.704	0,361	Valid
	Y7	0.774	0,361	Valid
	Y8	0.672	0,361	Valid
	Y9	0.828	0,361	Valid
	Y10	0.867	0,361	Valid
	Y11	0.726	0,361	Valid

The validity test results of this study can be found that there are some invalid items because the calculated r value is < critical r. And it can be concluded that the statement items X1.1, X1.2, and X2.6 are declared invalid and do not need to be used in this test.

Table 2. Test Reliabilibag

Variable	Cronbach's Alpha	N of Items
Motivation	0.834	11
Work Environment	0.870	11
Productivity	0,936	11

The results of the reliabilliarity test from this study can be seen that all variables can be said to be *realible* because the results of *Cronbach's Alpha* are more than the value of 0.6 00. *Cronbach's Alpha* value was obtained at the Motivation variable of 0.834. The value of *Cronbach's Alpha* on the variabel Working Environment was 0.870. The value of *Cronbach's Alpha* at the Productivity variable was 0.936.

T test of the Data Metode MSI

The transformation of ordinal data to interval data is one way to overcome obstacles in statistical normality tests faced in scientific research. For the transformation of ordinal data to interval data can use the stat97 *add-ins* facility provided by *microsoft excel*.

Normality Test

Tabel 3. Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		150
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	4.23340743
Most Extreme Differences	Absolute	.066
	Positive	.051
	Negative	-.066
Test Statistics		.066
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

The results of the normality test can be said that the data is normal because the *Asymp Sig* value is 0.200 greater than the significant value of 0.05.

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Verifikatif analysis

Correlation Analysis

According to Uus and Syifa (2019) the correlation test aims to find out the magnitude and direction of the correlation between variables that have a category of strength and direction of correlation.

Table 4. Correlation Test

Correlations

		Motivation	Work Environment
Motivation	Pearson Correlation	1	.568**
	Sig. (2-tailed)		.000
	N	150	150
Work Environment	Pearson Correlation	.568**	1
	Sig. (2-tailed)	.000	
	N	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

Based on table 4 Test The large correlation coefficient between the variables Motivation (X1) and Work Environment (X2) is 0.568.

Table 5. Correlation Coefficient

Correlation (r)	Strength
0,80 – 1,00	Very Relationship Kuat (+/-)
0,60 – 0,79	Strong Relationships (+/-)
0,40 – 0,59	Relationships Are Strong Enough (+/-)
0,20 – 0,39	Weak Relationships (+/-)
0,00 – 0,19	Very Lemah relationship (no relation)

Source: Uus and Syifa (2019)

So it can be concluded that the variables Motivation (X1) and Work Environment (X2) have a fairly strong relationship and have a positive correlation direction.

Path Analysis

Table 6. *Table of Coefficients*

Coefficients[a]

Type		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.041	2.464		1.640	.103
	Motivation	.477	.099	.331	4.825	.000
	Work Environment	.561	.079	.489	7.133	.000

a. Dependent Variable: Productivity

a. The Partial Effect of Motivation On Productivity has a path coefficient value of 0.331.
b. The Partial Effect of Work Environment on Productivity has a path coefficient of 0.489.

Coefficient of Determination Analysis (R2)

Table 7. Model[Summary b]

Model[Summary b]

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729[a]	.532	.525	4.262

a. Predictors: (Constant), X2, X1
b. Dependent Variable: Y

$$\epsilon = \sqrt{1 - r^2} = \sqrt{1 - 0{,}532^2} = 0{,}468$$

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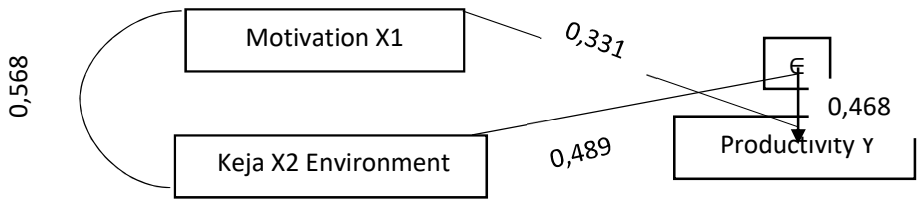

Figure 2. Path Analysis Model

1. Partial Effect of Motivation (X1) On Employee Productivity (Y)

Table 8. Partial Effect of Motivation (X1) On Employee Productivity (Y)

Partial Influences	Account	Result
Immediately	0.331 x 0.331	0,1095
Indirect	0.568 x 0.331 x 0.468	0,0879
	Total Partial Influence	**0,1974**

Based on tabe l above, it shows that the partial difference of the Motivation variable (X1), to Pconductivity (Y), is 0.1974 or 19.74%.

2. Partial Effect of Work Environment (X2) on Employee Productivity (Y)

Table 9. Partial Effect of Work Environment (X2) on Employee Productivity (Y)

Partial Influences	Account	Result
Immediately	0.489 x 0.489	0,2391
Indirect	0.568 x 0.489 x 0.468	0,1299
	Total Partial Influence	**0,3690**

Based on the table above, it shows that the partial impact of the Work Environment variable (X2), on productivity (Y), is 0.3690 or 36.90%.

3. The Simultaneous Effect of Motivation (X1) and Work Environment (X2) on Employee Productivity (Y)

Table 10. The Simultaneous Effect of Motivation (X1) and Work Environment (X2) on Employee Productivity (Y)

Simultaneous Influence	Account	Result
Partial Influence of Motivation (X1)	0.1095 x 0.0879	0,1974
Partial influence of the Work Environment (X2)	0.2391 x 0.1299	0,3690
	Total Simultaneous Influence	**0,5664**

Based on the above, it can be seen that the Motivation (X1) and Work Environment (X2) to Employee Productivity (Y) are 0.5664 or 56.64 %. The results of the calculations above can be seen that the Work Environment is more directly influential and provides greater value to Employee Productivity. In this case to increase Employee Productivity through good Work Motivation.

Hypothesis examiner

1. Correlation between Motivation variables (X1) and Work Environment (X2)

$$\frac{t=r\sqrt{n-2}}{\sqrt{1-r^2}} = = = \frac{0{,}568\sqrt{150-2}}{\sqrt{1-o{,}568^2}} \frac{0{,}568\sqrt{148}}{\sqrt{1-0{,}568}} \frac{0{,}568\ x\ 12{,}16}{0{,}468} = \frac{6{,}906}{0{,}468}\ 14{,}756$$

The correlation between the variables Motivation (X1) and Work Environment (X2) is known t count 14.756 > t table 1.655. Then it can be concluded that Ho is rejected, meaning that Motivation (X1) and Work Environment have a significant relationship.

2. Partial Variable Influence Hypothesis Testing

Table 11. Table of Coefficients

Coefficients[a]

Type		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.041	2.464		1.640	.103
	Motivation	.477	.099	.331	4.825	.000
	Work Environment	.561	.079	.489	7.133	.000

a. Dependent Variable: Productivity

a. Partial hypothesis of Motivation (X1) to Productivity (Y)
The partial hypothesis of motivation to employee productivity shows a sig value of 0.000 < α (0.05) and t count 4.825 > t table (1.655). So it can be concluded that Ho is rejected, meaning that motivation affects productivity.

b. Partial hypothesis of the Work Environment (X2) to Productivity (Y)
The partial hypothesis of the work environment on employee productivity shows a sig value. 0.000 < α (0.05) and t count 7.133 > t table (1.655). So it can be concluded that Ho is rejected, which means that the work environment affects productivity.

3. Hypothesis Testing of Simultaneous Influence of Variables

Table 12 F Value Calculation Results

ANOVA[a]

Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4079.590	2	2039.795	83.609	,000[b]
	Residual	3586.333	147	24.397		
	Total	7665.922	149			

a. Dependent Variable: Productivity
b. Predictors: (Constant), Work Environment, Motivation

Based on table 12 shows that the sig. value is 0.000 < α (0.05) and f count 83.609 > f table (3.06). So it can be concluded that Ho is rejected, meaning that motivation and work environment have a simultaneous effect on work productivity.

4. CONCLUSION

The correlation between the variables Motivation (X1) and Work Environment (X2) has a fairly strong relationship and has a positive correlation direction of 0.568 and in hypothesis testing the correlation value is 14.756 so that it has a significant relationship. There is a partial influence of the Motivation variable (X1) on Employee Productivity (Y), where Motivation (X1) has an influence on Employee Productivity (Y) of 19.74%. There is a partial influence of the Work Environment variable (X2) on Employee Productivity (Y), where the Work Environment (X2) has an influence on Employee Productivity (Y) of 36.90%. There is a significant simultaneous influence between Motivation (X1) and Work Environment (X2) on Employee Productivity (Y) of 54.64% while the rest is influenced by other factors outside of testing.

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