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The Effect of Work Motivation and Career Development on Employee Work Productivity at PT Hartono Istana Teknology (Polytron)

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Abstract: This study aims to analyze the effect of Work Motivation and Career Development on Employee Productivity at PT Hartono Istana Teknologi (Polytron). The population of this study is all employees, with a sample of eighty two respondents with predetermined criteria. The research used a quantitative approach with primary data obtained from questionnaires distributed via Google forms. The sampling technique used purposive sampling, while data analysis was conducted through validity, reliability, classical assumptions, multiple linear regression, t-test, F-test, and coefficient of determination tests. The results of the study indicate that Work Motivation has a positive and significant effect on Work Productivity, as does Career Development. Simultaneously, both variables have a significant effect on Work Productivity.

Keywords: Work Motivation, Career Development, Work Productivity

INTRODUCTION

The rapid development of digital technology over the past two decades has had a significant impact on various industrial sectors, including the electronics manufacturing industry. Companies are required to adapt to market dynamics and changing consumer behavior by improving product quality, distribution efficiency, and strengthening human resource management. PT Hartono Istana Teknologi (Polytron), one of Indonesia's leading electronics companies, founded in 1975, continues to expand its business, innovate technologically, and increase production capacity to maintain its competitiveness amidst international competition (Kompas.com, 2021).

Along the way, the company built two main factories in Kudus Regency and Sayung District, Demak, supported by a workforce of thousands. This expansion focused not only on physical and technological aspects but also on human resource development through ongoing recruitment, training, and career development. This demonstrates the role of human resources as a key pillar in the company's operational success (Polytron, n.d.).

Employee productivity is a crucial indicator of a company's success. Effective human resource management requires managers not only to be able to plan, organize, implement, and

control, but also to maintain good relationships with employees and place competent individuals in appropriate positions. Various factors influence employee productivity, including work motivation and career development (Halimah, 2023). Work motivation, both internal and external, is the primary driver for employees to contribute optimally to achieving organizational goals. Highly motivated employees not only demonstrate better productivity but also higher job satisfaction (Amalia & Awaliyah, 2025).

Furthermore, career development is a crucial element in increasing productivity. Structured career development programs enable employees to improve their skills, broaden their experience, and achieve greater job satisfaction. Companies that provide clear and systematic career development opportunities will have more competent and competitive human resources. Therefore, work motivation and career development can be seen as strategic factors determining the sustainability of workforce productivity (Amaral et al., 2023).

Based on this background, the questions that form the focus of this research are:

1. Does Work Motivation have a positive and significant effect on employee Work Productivity at PT Hartono Istana Teknologi (Polytron)?
2. Does Career Development have a positive and significant effect on employee Work Productivity at PT Hartono Istana Teknologi (Polytron)?
3. Do Work Motivation and Career Development simultaneously have a positive and significant effect on employee Work Productivity at PT Hartono Istana Teknologi (Polytron)?

In line with these research questions, this research aims to: (1) analyze the influence of Work Motivation on employee Work Productivity; (2) analyzing the influence of Career Development on Employee Work Productivity; and (3) analyzing the simultaneous influence of Work Motivation and Career Development on Employee Work Productivity at PT Hartono Istana Teknologi (Polytron).

This research is expected to provide theoretical and practical benefits. Theoretically, this research can enrich the study of human resource management, particularly regarding the relationship between Work Motivation, Career Development, and Work Productivity in the context of the electronics manufacturing industry. Practically, the research results can provide input for companies in designing strategies to increase work motivation and career development in an effort to maintain and enhance employee productivity. Furthermore, this research is also expected to provide insights for academics as a reference for further research and for the wider community in understanding the importance of work motivation and career development in the modern workplace.

METHOD

This study used a quantitative approach with a causal associative design to determine the effect of the independent variables, namely Work Motivation and Career Development, on the dependent variable, namely Work Productivity. The choice of quantitative methods was based on the need to test hypotheses and objectively measure the relationships between variables through statistical analysis (Sugiyono, 2019).

The research population was all employees of PT Hartono Istana Teknologi (Polytron). The research sample was determined using a purposive sampling technique, selecting respondents based on specific criteria that align with the research needs. A total of 82 employees were recruited.

The research instrument was a questionnaire structured with a Likert scale, in which respondents were asked to provide assessments of statements representing indicators of each research variable. The collected data were primary data obtained directly through questionnaire distribution.

The data analysis procedure involved several stages. First, validity and reliability tests were conducted. Next, classical assumption tests, consisting of normality tests,

multicollinearity tests, and heteroscedasticity tests, were conducted to ensure the data met the requirements for regression analysis (Gujarati & Porter, 2012). The data was then analyzed using multiple linear regression to test the effect of the independent variables on the dependent variable. The analysis continued with t-tests, F-tests, and coefficients of determination.

RESULTS AND DISCUSSION

Results

Descriptive Statistical Tests

Descriptive statistical tests were conducted to determine the data characteristics of each study variable using metrics such as minimum value, maximum value, mean, and standard deviation. The purpose of this analysis was to provide an overview of respondents' views on Work Motivation (X_1), Career Development (X_2), and Work Productivity (Y).

Table 1. Descriptive Statistical Test Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
X1	82	35	50	44.57	4.134
X2	82	24	50	38.55	6.379
Y	82	35	50	43.20	4.432
Valid N (listwise)	82				

Based on the SPSS output, the Work Motivation variable (X_1) has a minimum value of 35 and a mean value of 36.379. Furthermore, the Career Development variable (X2) ranges from 24 to 50, with a mean of 38.55 and a standard deviation of 6.379. A higher standard deviation value compared to X1 indicates that respondents' perceptions of career development policies and opportunities within the company are quite varied.

The Work Productivity variable (Y) has a mean of 43.20, a standard deviation of 4.432, a minimum value of 35, and a maximum value of 50. This indicates that employee work productivity is relatively high and stable among respondents.

Overall, all three variables show a high average trend, indicating that employee perceptions of work motivation, career development, and work productivity are all within the 'good' range (Ghozali, 2018).

Instrument Testing

a. Validity Test

The Pearson correlation method between each item and the overall variable score was used to test validity. If the correlation value is positive and the significance value (Sig.) is less than 0.05, the instrument is considered valid.

Table 2. Validity Test Results

No	Variable	Coefficient Validity	Point Critical	Conclusion
X1.1	Work motivation	0.522	< 0.001	Valid
X1.2		0.631	< 0.001	Valid
X1.3		0.613	< 0.001	Valid
X1.4		0.685	< 0.001	Valid
X1.5		0.727	< 0.001	Valid
X1.6		0.679	< 0.001	Valid
X1.7		0.718	< 0.001	Valid
X1.8		0.653	< 0.001	Valid
X1.9		0.733	< 0.001	Valid

XI.10		0.718	< 0.001	Valid
X2.1	Career Development	0.487	< 0.001	Valid
X2.2		0.577	< 0.001	Valid
X2.3		0.746	< 0.001	Valid
X2.4		0.857	< 0.001	Valid
X2.5		0.765	< 0.001	Valid
X2.6		0.682	< 0.001	Valid
X2.7		0.753	< 0.001	Valid
X2.8		0.598	< 0.001	Valid
X2.9		0.814	< 0.001	Valid
X2.10		0.796	< 0.001	Valid
Y.1	Work Productivity	0.792	< 0.001	Valid
Y.2		0.783	< 0.001	Valid
Y.3		0.794	< 0.001	Valid
Y.4		0.551	< 0.001	Valid
Y.5		0.692	< 0.001	Valid
Y.6		0.669	< 0.001	Valid
Y.7		0.680	< 0.001	Valid
Y.8		0.606	< 0.001	Valid
Y.9		0.675	< 0.001	Valid
Y.10		0.649	< 0.001	Valid

All components in the variables Work Productivity (Y), Career Development (X_2), and Work Motivation (X_1) have a significance value of less than 0.05, according to SPSS output data, indicating that all questionnaire items are valid and can be used.

b. Reliability Test

The consistency of the research instrument was determined by measuring it through a reliability test. In this study, Cronbach's Alpha was calculated; a variable is considered reliable if its alpha value exceeds 0.70 (Ghozali, 2018).

Table 3. Reliability Test Results

Variables	**Cronbach's Alpha**
Work Motivation	0.760
Career Development	0.771
Work Productivity	0.766

According to the reliability test results, the Work Productivity (Y) variable reached 0.766, the Career Development (X_2) variable reached 0.711, and the Work Motivation (X_1) variable reached 0.760 Cronbach's Alpha. Since all three values were above the 0.70 threshold, all research instruments met the reliability criteria. This makes this questionnaire reliable and can be used to measure each variable.

Classical Assumption Test

1) Normality Test

The tendency of residual data to be normally distributed was examined using a normality test. In this study, the Kolmogorov-Smirnov test was used using SPSS.

Table 4. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			82
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		3.47828458
Most Extreme Differences	Absolute		.073
	Positive		.073
	Negative		-.047
Test Statistic			.073
Asymp. Sig. (2-tailed)[c]			.200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		.344
	99% Confidence Interval	Lower Bound	.332
		Upper Bound	.356

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.

The test results showed a significance value of 0.200, which is above 0.05, indicating a normal distribution of the residual data. Furthermore, the Monte Carlo significance value was 0.344 with a 99% confidence interval, further confirming that the residual data did not deviate from a normal distribution. Thus, it can be concluded that the regression model in this investigation meets the assumption of normality.

2) Multicollinearity Test

To determine whether there is a strong correlation between the independent variables in the model, a multicollinearity test was conducted. A Variance Inflation Factor (VIF) value > 10 or a Tolerance value < 0.10 indicates multicollinearity (Ghozali, 2018).

Table 5. Multicollinearity Test Results

Coefficients[a]

		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	X2	.775	1.290
	X1	.775	1.290

a. Dependent Variable: Y

The test results show that both independent variables (X_1 and X_2) have a VIF value of 1.290 and a Tolerance value of 0.775. Both values are within reasonable tolerance limits, indicating that multicollinearity was not found between the variables.

3) Heteroscedasticity Test

Heteroscedasticity testing is conducted to check for any discrepancies in residual variances across various predicted values. One method used is the Glejser test.

Table 6. Heteroscedasticity Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.910	2.337		1.673	.098
	X2	-.022	.038	-.073	-.574	.568
	X1	-.004	.059	-.009	-.068	.946

a. Dependent Variable: ABS_RES

The regression results show that the sig. value for variable X_1 is 0.946 and for X_2 is 0.568, both above 0.05. This means that this regression model does not indicate heteroscedasticity.

Thus, it can be concluded that all classical assumptions have been tested and are met, and the data can be used in multiple linear regression analysis.

Multiple Linear Regression

This test is used to examine how independent factors, such as Career Development (X_2) and Work Motivation (X_1), influence the dependent variable, Work Productivity (Y).

Table 7. Results of Multiple Linear Regression Test

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Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15.842	4.258		3.721	<,001		
	X2	.235	.070	.339	3.380	.001	.775	1.290
	X1	.410	.108	.382	3.814	<,001	.775	1.290

a. Dependent Variable: Y

The following is a multiple linear regression equation based on the results of data processing using SPSS:

$Y = 15.842 + 0.410X_1 + 0.235X_2$

From this equation, it can be interpreted as follows:

a. The constant value of 15.842 indicates that if both X_1 and X_2 are zero, then the value of Y (Work Productivity) is 15.842.
b. The regression coefficient of X_1 (Work Motivation) is 0.410, indicating that a one-unit increase in work motivation will result in a 0.410-unit increase in work productivity, and vice versa.
c. The regression coefficient of X_2 (Career Development) is 0.235, indicating that, assuming the work motivation variable remains constant, a one-unit increase in career development will result in a 0.235-unit increase in work productivity, and vice versa.

Hypothesis Testing

1) Partial Test (t-Test)

Conducted to determine the possible partial effect of the independent variable on the dependent variable. The results of the t-test are as follows:

Table 8. Partial Test Results

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Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15.842	4.258		3.721	<,001		
	X2	.235	.070	.339	3.380	.001	.775	1.290
	X1	.410	.108	.382	3.814	<,001	.775	1.290

a. Dependent Variable: Y

Work Motivation (X1) has a significance value of ≤ 0.001, indicating that its value is less than or equal to 0.05, according to the t-test results. Therefore, it was decided to accept H1 and reject H0. This means that Work Motivation has a significant effect on Work Productivity. Therefore, if work motivation is high, productivity will also be higher.

Career Development (X2) has a significance value of less than or equal to 0.05, or 0.001. Consequently, H1 is accepted and H0 is rejected. This means that this variable has a significant

effect on Productivity. Employees who receive attention in their career development will demonstrate better work productivity.

Because the significance values of both independent variables are less than or equal to 0.05, it can be concluded that Work Motivation and Career Development have a partial effect on Work Productivity. Therefore, Hypotheses H1 and H2 are accepted.

2) Simultaneous Test (F Test)

To determine whether the independent factors have a simultaneous impact on the dependent variable, the F test is used.

Table 9. Simultaneous Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	610.902	2	305.451	24.624	<,001[b]
	Residual	979.976	79	12.405		
	Total	1590.878	81			

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

Based on the F-test results, a significance value of 0.001 was accepted, meaning the significance value is less than or equal to 0.05. Therefore, H_0 is rejected and H_1 is accepted. In other words, it can be concluded that work motivation and career development both have a significant influence on work productivity. This means that when these factors are simultaneously enhanced, employee work productivity will also increase significantly.

3) Coefficient of Determination (R^2)

The coefficient of determination is useful in measuring the contribution of independent variables in explaining the dependent variable.

Table 10. Results of the Coefficient of Determination Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.620[a]	.384	.368	3.522

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

Based on the SPSS output, the Adjusted R Square value was 0.368, meaning that 36.8% of the variation in work productivity can be explained by career development and work motivation. Other factors not investigated in this study impact the remaining 63.2%.

Discussion

The Influence of Work Motivation on Work Productivity

The research findings indicate that work productivity is influenced by work motivation. This was verified through a t-test, which yielded a calculated t-value of 3.814 for work motivation (X1) and a significance level of <0.001, which is less than or equal to 0.0. This means that motivation significantly influences work productivity. Statistically, the regression coefficient of 0.410 indicates that higher levels of motivation in the workplace will lead to higher levels of productivity.

The majority of employees take pride in their work, demonstrate a passion for achieving targets, and feel satisfied with their achievements. Therefore, employee work motivation is at a good level. A sense of responsibility and emotional involvement in their work motivates them to deliver their best performance.

This finding aligns with research by Amaliyah & Amin (2023), which found that work motivation plays a significant role in increasing productivity because it encourages employees

to work with focus and dedication. This suggests that internal factors, such as work motivation, influence the amount of effort employees expend in completing their work, which ultimately impacts productivity.

The Influence of Career Development on Work Productivity

Various test results also suggest that career development impacts work productivity. The t-test results show a calculated t-value of 3.380 and a significance level of 0.001. Since the significance level is <0.05, career development has a significant impact on work productivity. Statistically, these results confirm that career development opportunities such as training, promotion paths, and professional development contribute to improved employee performance.

Most employees feel they have the opportunity to develop competencies through training tailored to job requirements. Furthermore, transparency in the promotion process and career paths also makes them feel valued and motivated to deliver their best performance.

These results are supported by research by Abdullah et al. (2024), who claim that professional growth can improve performance because employees feel they have a clear future within the company. Therefore, career development is a form of organizational support that can encourage employees to continue developing and deliver better performance.

The Influence of Work Motivation and Career Development on Work Productivity

The overall test results indicate that work motivation and career development simultaneously influence work productivity. The calculated F-value of 24.624, with a significance level of <0.001, was then displayed by the simultaneous test (F-test). This indicates a strong contribution from both independent variables in explaining productivity variability.

Statistically, the contribution of these two variables to work productivity is demonstrated by a coefficient of determination (R2) of 0.368, meaning that 36.8% of the work productivity variable is influenced by work motivation and career development, while the remaining 63.2% is influenced by other factors not examined. Employees who feel highly motivated and supported by a work environment that provides opportunities for development tend to demonstrate more productive performance. In this regard, the majority of employees demonstrate enthusiasm in completing their tasks and feel supported by the company's career development programs.

The combination of internal motivation and external support from the company creates ideal working conditions for high productivity. This combination creates a more conducive working environment, motivates individuals to perform optimally, and encourages them to develop their capacities to achieve better work results.

CONCLUSION

This study aims to analyze the influence of work motivation and career development on employee productivity at PT Hartono Istana Teknologi (Polytron). The analysis shows that work motivation has a positive and significant impact on work productivity. Employees who are driven by achievement, discipline, and goal-oriented are able to complete their work more effectively and efficiently. Furthermore, career development has also been shown to significantly impact employee productivity. Company support in the form of training, clear career paths, and promotion opportunities can encourage improved individual and team performance. Furthermore, work motivation and career development simultaneously contribute significantly to increased employee productivity.

These findings imply that companies need to pay serious attention to work motivation and career development as human resource management strategies. Motivation can be enhanced through fair rewards, a conducive work climate, and setting challenging yet realistic targets. Meanwhile, career development can be optimized through the development of ongoing training programs, a transparent promotion system, and a clear career path for employees. By integrating these two aspects, companies can sustainably increase productivity and strengthen organizational competitiveness.

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