



The Influence of Competence and Work Environment on Employee Productivity in PT. Inko Java Semarang

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Abstract. The study has the objective of analyzing the impact on competence and work environment on employee productivity at PT. Inko Java Semarang. Using an associative quantitative approach with a survey method, the total population of this study were all 128 employees of the production division at PT. Inko Java Semarang. Using a non-probability purposive sampling, the size of the sample used in this study was 32 people. The data were collected using a questionnaire with a Likert scale of 1 to 5. The results of this study showed that partially, competence has a positive and significant effect on employee productivity with a 28.9% score; work environment has a positive and significant effect on employee productivity with a 45.9% score. While simultaneously, competence and work environment have a positive and significant effect on employee productivity in the production division of PT. Inko Java Semarang with a total of 65.4% score, and the other 34.6% is influenced by other variables that are not discussed in this study.

Keywords: competence · work environment · employee productivity · production division

1 Introduction

Management controls the main function of increasing efficiency and effectiveness in the company. Management is the art of science in the affairs of human resources and various other resources in an effective and efficient way to achieve an ideal. So, human resources are the main aspect of the company, so they must be managed properly to increase the effectiveness and efficiency of groups and companies [1].

Among the many goals of a company is to make profit and be the best in meeting consumer needs. Based on these two things, companies are forced to continue to be productive in producing products with the best and sustainable quality [2]. Therefore, employee productivity is very important. There are many factors that can affect the high and low work productivity of employees, including competence and work environment of employee. Employee's role productivity is the ability to get maximum benefits with various facilities provided to obtain maximum output and input. With good productivity, the company will be able to provide products needed by consumers in a sustainable manner. In line with that, the company's profit target can also be achieved.

PT. Inko Java is a manufacturing company located in Semarang Regency, Indonesia, which produces sports equipment, such as baseball and softball gloves. In its development, the company has had three subsidiaries, each of which is located in Osaka, Japan, Busan, South Korea, and Los Angeles, California, United States. This company in the position of being a vendor company, there must always be goods according to orders and therefore is required to be able to provide goods on time and in accordance with orders. Therefore, the work productivity of the employees is very important to support the demand fulfillment so that problems do not occur. In its production activities, productivity is the main problem faced by the company. The daily production results have experienced fluctuations up and down and not Align with the achievement targets set by the company.

Based on company data, it is known that the productivity of finished goods each month increases and decreases. This is apart from the different number of orders each month, because in their daily life to achieve the productivity figures set by management becomes difficult to achieve due to the lack of skills possessed by employees. This phenomenon occurs because there are still many employees who do not have the skills Carry out its role in the creation of goods effectively and efficiently, so that it can affect employee productivity at PT. Inko Java Semarang. These skills are one of the dimensions of competence and have an impact on not achieving the daily production target.

Competence is a combination of insights, skills, results and actions that are reflected in the habit of thinking and taking action [3]. Competence is an interesting and integrated level of insight, expertise, action and results that are reflected in ways of thinking and models of action [4]. Productivity is the acquisition of management that has been determined and has a size in a period that has been determined through criteria and agreements that have been previously agreed upon [5]. Productivity is in line with employee competence, because it is not only about the current work results of employees but also takes into account the results of employees' work from time to time align with its competence, so that it is known the extent of employee work and improvements that must be made so that in the future it will be better [6].

The area of the company is the main aspect that can have an impact on employees productivity [7–9]. In PT. Inko Java Semarang, there are many things that could affect the rise and fall of the production per day, including the lack of employee competence as well as the employee's work environment which may be felt by employees to be uncomfortable, resulting in employees working leisurely without paying attention to the achievement of daily production targets.

The work environment of a company can affects an employee's productivity because a human being can carry out activities well (Robbins & Judge, 2022), then they will get maximum value by being encouraged in a harmonious regional atmosphere [10]. Thus, the work area is something that is in the employee's area which can have an impact on the productivity of the employee itself. Non-physical work areas are all the physical and psychological factors in work rules that can have an impact on welfare and productivity gains [6].

It is known that there are still problems in the non-physical work environment in PT. Inko Java Semarang, namely there are still many employees who are sick every month, this is caused by many employees who feel tired while doing their work. The fatigue

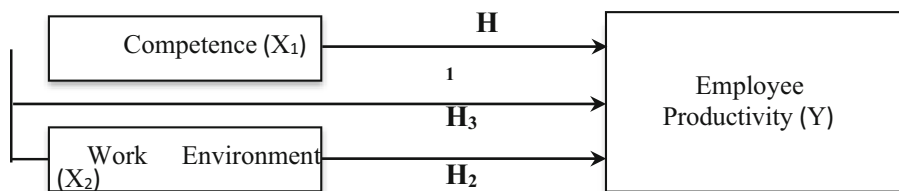


Fig. 1. Conceptual Framework

experienced by employees in the production division of PT. Inko Java Semarang is due to the number of working hours that are not relevant to Appointment period period that has been determined against the company. Excess working hours causes many employees to experience fatigue and causes employees to be absent due to illness every month. Because fatigue is an indicator work area, can be called if the work area affects the productivity of PT. Inko Java Semarang. If the competence of employees increases and the work environment of employees increases, then employee productivity will increase.

The dimensions of employee productivity variable that are relevant in this study are: quality, quantity, cooperation, responsibility; while the relevant productivity indicators in this study are: reliability, accuracy, timeliness, work results, collaboration, cohesiveness, responsibility in making decisions, responsibility in utilizing facilities and infrastructure [6]. The dimensions of competence variable relevant to this research, namely: knowledge, skills, and attitudes; while the indicators of competence relevant to this research are: conceptual knowledge, productive knowledge, managerial skills, technical skills, social skills, initiative in helping co-workers, friendliness [11]. For the work environment variable, this study uses the dimensions as follows: temporal psychological territory; while the indicators of the that are relevant to this research, namely: the number of hours worked, time off work, boredom, monotonous work, and fatigue [12].

Based on the explanation above, this research tries to find out the influence of competence and work environment on employee productivity in PT. Inko Java Semarang. Conceptual framework is a theoretical explanation of the linkages between the variables, which are compiled from various theories (Sugiyono, 2004). Therefore, the conceptual framework in this study is shown in Fig. 1.

2 Method

This study uses a quantitative approach to the survey method. The population of this study is all employees of the production sector of PT. Inko Java Semarang. The sample size used in this study was determined using the Slovin formula, and the total sample obtained was 32 people. In this study the sampling technique used was non- probability purposive sampling. Opinion of Sugiyono (2012), non-probability purposive sampling is a sample method that does not provide equal opportunities for all population workers to be determined as a sample, with certain considerations aimed at making the data obtained to be more representative. Where in determining this sample, the researcher considers each person who is considered as a respondent to have the capability or is able to examine each statement in the questionnaire properly. The data were collected using

a questionnaire with a Likert scale of 1 to 5 to reveal the attitude of the respondents. The attitude scale instrument contains statements that have been tested for validity and reliability test. Data were analyzed using multiple linear analysis with SPSS version 26 software.

3 Result

3.1 Normally Test

The normality test is intended to examine whether a sample is normally distributed or not. In the linear regression model, this opinion is intended for values that are at a normal or almost normal level. Information is called normal if the significance obtained is above 0.05, so that the sample is through a normally distributed population. If the significance is below 0.05, then the sample does not pass through the normal population. Based on Table 1, for the normality test that has been tested using SPSS 26 software, the significance obtained is 0,200 which is greater than 0.05, meaning that the sample used in this study comes from a normally distributed population.

3.2 Linearity Test

The linearity test has the objective of seeing whether the variables studied have a linear or insignificant relationship. If the actual relationship to the variable is not linear, the pattern cannot be used for further analysis because its accuracy will be significantly reduced. Based on Table 2, for the linearity test that has been tested using SPSS 26 software, the significance value deviation from linearity on the competence variable (X1) is 0.267, and the work environment variable (X2) is 0.718. So overall it is concluded that all the variables that have been tested are stated to have a linear relationship.

Table 1. Normality Test Result

Variable	Sig. $\alpha = 0,05$	Sig. Kolmogorov-Smirnov	Result
Y	0,05	0,200	Normal
X1	0,05	0,200	Normal
X2	0,05	0,200	Normal

Source: Data processed, 2022

Table 2. Normality Test Result

Variable	Deviation from Linearity Sig.	Standart Sig.	Result
Y - X1	0,267	0,05	Linear
Y - X2	0,718	0,05	Linear

Source: Data processed, 2022

Table 3. Multiple Linear Regression Analysis Test Results

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant	22,323	9,056		2,453	,020
	X1 = Competence	0,289	0,129	0,311	2,139	,040
	X2 = Work environment	0,459	0,117	0,541	3,675	,001

Y = Employee Productivity

Source: Data processed, 2022

3.3 Hypothesis Test

Multiple Linear Regression Analysis. Multiple linear regression analysis consists of constant, competence (X1), and work environment (X2). In the observation of multiple linear regression prepared against Table 3 includes.

From the results of above, carefully obtained multiple linear regression includes:

$$Y = 22,323 + 0,289X1 + 0,459X2 \quad (1)$$

Y = Employee Productivity

X1 = Competence

X2 = Work Environment

From Obtaining the similarity of multiple linear regression, observation of elaboration includes:

- A constant of 22.323 means that the competency coefficient (X1) and work environment (X2) are 0, so that the result of employee productivity is 22.323.
- X1 = Competency regression coefficient (X1) is 0.289. This means that there is a unitary development of the competency variable, so that the growth in employee productivity is 0.289 per one.
- X2 = Work environment regression coefficient (X2) is 0.459. This means that if there is an increase in the unity of the work environment variable, then the increase in employee productivity is 0.459 per one.

Partial Hypothesis Test (T-test). The partial hypothesis assessment (t-test) includes constants, competence (X1), and work environment (X2). The acquisition of partial hypothesis test (t-test) is prepared based on Table 4 in the form.

The acquisition of a partial hypothesis test (t-test) Competence (X1) on employee productivity (Y) illustrates the results of t-count 2.139 > t-table 2.045, and a Significance Value of 0.04 < 0.05. So it can be concluded that if Hypothesis 1 or H0 is rejected and

Table 4. Partial Hypothesis Test Results (T-test)

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	22,323	9,056		2,453	,020
	X1 = Competence	0,289	0,129	0,311	2,139	,040
	X2 = Work environment	0,459	0,117	0,541	3,675	,001

Y = Employee Productivity

Source: Data processed, 2022

Table 5. Simultaneous Hypothesis Test (F-test) ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1639.521	2	804.756	26.231	.000^b
	Residual	900.428	29	31.040		
	Total	2539.949	31			

Source: Data processed, 2022

Ha is accepted, it means that competence has a partial positive and significant impact on the work productivity of employees of PT. Inko Java Semarang.

The results of partial hypothesis testing (t test) Work Environment (X2) on employee productivity (Y) illustrate the results of t count 3.675 > ttable 2.045, and a Significance Value of 0.001 < 0.05. So it can be concluded that if Hypothesis 2 or H0 is rejected and Ha is accepted, it means that the work environment has a partial positive and significant impact on the work productivity of employees of PT. Inko Java Semarang.

Simultaneous Hypothesis Test (F-Test). The Simultaneous hypothesis testing (f-test) aims to observe Competency (X1) and Work Environment (X2) variables with the same impact on employee productivity (Y). The results of this study with simultaneous hypotheses (f-test) are prepared through Table 5.

Through the acquisition of analysis obtained F-count at the accumulation of 26.231 and a significance of 0.000. Through table F with a significant level (α) = 5%, (df) = n-k = 32-2 = 30. In that determination, the F-table is 3.32. The data management illustrates the calculated F value of 26,231 increasing in F tale 3.32 and a Significance Value of 0.000 increasing to 0.05. Means that the hypothesis in this study H0 is rejected and Ha is accepted. So that it can be concluded if Competence and Work Environment with similarities have an impact on employee productivity.

Table 6. Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,804 ^a	,654	,622	5,584

a. Predictors: Constant, Work Environment, Competence

b. Y: Employee Productivity

Source: Data processed, 2022

Coefficient of Determination. The coefficient of determination includes predictors: constants, competence (X1), and work environment (X2), and the dependent variable employee work productivity (Y) is prepared in Table 6.

Through Table 6, the coefficient of determination (R²) is 0.654 or (65.4%). Illustrating that 65.4% of employee productivity variables are affected by competency and work environment variables, but 34.6% are affected by other variables that are not criteria in the assessment pattern.

4 Discussion

4.1 The Influence of Competence on Employee Productivity

Competence is an amalgamation of insights, skills, results and actions that are depicted in the habit of thinking and doing [3]. Through the obtained analysis, it can be seen that competence partially has a positive and significant impact on employee work productivity. Which means if the employee has minimal competence in carrying out his duties, then the employee will experience difficulties and cannot be optimal in carrying out the assigned tasks [15, 16]. In this case, if employees in the production division of PT. Inko Java Semarang don't have the skills to play a role in producing goods, it can affect employee productivity at PT. Inko Java Semarang.

Competence is an interestingly integrated stage of insight, expertise, actions and results that are reflected in ways of thinking and ways of acting [4]. These skills are one of the dimensions of competence and have an impact on whether the employees may or may not achieve the daily production target [17]. In the production division of PT. Inko Java Semarang, the productivity of finished goods each month increases and decreases. This is apart from the different number of orders each month, because in their daily life to achieve the productivity figures set by management becomes difficult to achieve due to the lack of skills or low competence possessed by employees. This, in turn, will also affect the achievement of the company's productivity [18, 19].

This research is in line with Dessler's opinion [20] which Competence is defined as individual characteristics that can be used, especially knowledge, expertise, and actions that can gain productivity and talent. Competence is a person's expertise to carry out a job with accuracy having goodness covering something related to insight, expertise,

and behavior [5]. The results of this study were encouraged by valid initial studies [14, 21–23] all conclude that competence has a positive and significant impact on employee work productivity.

This study further confirms the relevant previous research on the influence of competence on productivity. Thus, theoretically and empirically evidence carried out in this study shows that competence (X1) has a positive and significant effect on the employee productivity (Y) in the production division of PT. Inko Java Semarang.

4.2 The Influence of Work Environment on Employee Productivity

Employee productivity is not only about the current work results of employees but also it takes into account the results of employees' work from time to time align with its competence, so that it can be seen how far the work of employees and improvements that must be made so that in the future it will be even better [6]. Through the acquisition of analysis, obtained if second hypothesis was accepted, namely work environment partially positive and significant impact on employee productivity. In this case, if employees of PT. Inko Java Semarang in the production division gets excess working hours that are not in accordance with the work contract, employees will complain because the rest time at home is reduced due to excessive working hours, hence it will affect their productivity.

Work environment is an important Aspects that can have an impact on employee work productivity [17]. The results of this study are in line that the work environment of a company can influence the employee's productivity because they will be able to carry out their jobs and activities well, resulting in an optimal result and the company target could be achieved [10, 23]. In PT. Inko Java Semarang, there are many things that could affect the rise and fall of the production per day, including the employee's work environment which may be felt by employees to be uncomfortable, resulting in employees working leisurely without paying attention to the achievement of daily production targets.

The findings of this study can encourage initial studies on [23–27] in conclusion thinks that the work environment has a positive and significant impact on employee work productivity. In this study, the work environment variables include the temporal work environment and the psychological work environment. The psychological work area and non-physical work environment are a factor of psychological physical work and work rules that can impact work welfare and employee work productivity [6]. One of the non-physical work environments is the psychological work environment, namely the work environment related to one's psychology [12]. Based on the data analysis, the employees of PT. Inko Java Semarang in the production division still feels that the working hours are not in accordance with company regulations which causes the number of hours to work excessively and affect their psychological work environment. This, in turn, makes the employee productivity decrease [13, 14].

Based on the statements above, the acquisition of this study further strengthens the strength of relevant preliminary studies on the impact of the work environment on employee work productivity. Thus, the theoretical and empirical evidence carried out in this study illustrates that the work environment (X2) partially has a positive and significant impact on employee productivity (Y) of PT. Inko Java Semarang in the production division.

4.3 The Influence of Competence and Work Environment on Employee Productivity

Based on the results of the analysis, this study found that the first hypothesis was accepted as true, namely that competence partially has a positive As well as having a significant impact on employee productivity. If the employee has minimal competence in carrying out his duties, then the employee will experience difficulties and cannot be optimal in carrying out the assigned tasks [15, 16]. In this case, if employees in the production division of PT. Inko Java Semarang don't have the skills Carrying out his directives on producing goods effectively and efficiently, can have an impact on employee's productivity at PT. Inko Java Semarang.

Meanwhile, based on the results of the analysis for the second hypothesis, it was found that the second hypothesis was also accepted, namely work environment causes positive as well as significant to employee productivity. If employees of PT. Inko Java Semarang in the production division gets excess working hours that are not in accordance with the work contract, employees will complain because the rest time at home is reduced due to excessive working hours, hence it will affect their productivity.

Empirically, the results of this study support previous research that competence and work environment together Has a positional and significant impact on employee's productivity [7, 9, 13, 14, 18, 19]. In this study it becomes increasingly strong towards the initial assessment which has a simultaneous effect on competence and work environment on employee work productivity.

Thus, theoretically and empirically evidence carried out in this study indicate that competence (X1) and work environment (X2) with the understanding that it has a positive and significant impact on employee work productivity (Y) employees in the production sector of PT. Inko Java Semarang.

5 Conclusion

The study aims to see the impact of competence and work environment on employee productivity at PT. Inko Java Semarang. Through the acquisition of analysis carried out on 32 employees in the production sector of PT. Inko Java Semarang, this study draws conclusions if competence partially has a positive and significant impact on employee work productivity at PT. Inko Java Semarang at 28.9% impact. However, the work environment partially has a positive and significant impact on the productivity of PT. Inko Java Semarang share production amounting to 45.9%. Obtained by the end of the analysis it is observed that competence and work environment simultaneously have a positive and significant impact on the productivity of employees in the production sector at PT. Inko Java Semarang is 65.4%, but 34.6% is due to other variables that have not been studied in this study.

The acquisition of this study contributes to the growth of theoretical insights, especially in the human resource management sector, because this study will apply strictly to valid initial studies on the impact of the company's work environment on employee productivity. It can be found used as a comparison material for all managers and rule setters in a public group and company to determine the best way to develop human resource

management tasked with increasing group efficiency and effectiveness company. However, as this research only discusses topics in the production division of a company, further research development can be carried out in other divisions, so that the conditions of each variable for other types of divisions can also be carried out effectively. Finally, because the current research uses a quantitative approach, it is interesting to conduct qualitative research that aims to explore the results of a more in- depth analysis and enrich the study of the topics that have been studied.

References

1. Kusriyanto, B.: *Increasing Employee Productivity*. Gramedia, Jakarta (2005).
2. Sihombing.; *Management*. Gramedia Pustaka, Jakarta (2006).
3. Mulyasa.: *Pengembangan Dan Implentasi Pemikiran Kurikulum*. PT Remaja Rosdakarya, Bandung (2013).
4. Arifin.: *Penelitian Pendidikan*. Kencana Prenada Media Group, Semarang (2011).
5. Edison, E.: *Manajemen Sumber Daya Manusia*. Alfabeta, Bandung (2016).
6. Mangkunegara, A.P.: *Manajemen Sumber Daya Manusia Perusahaan*. PT. Remaja Rosdakarya Offset, Bandung (2017).
7. Awan, A.G., Tahir, M.T.: *Impact of working environment on employee's productivity: A case study of Banks and Insurance Companies*. *European Journal of Business and Management*, (7)1, 329–345 (2015).
8. Massoudi, A.H., Hamdi, S.S.: *The Consequence of work environment on Employees Productivity*. *IOSR Journal of Business and Management*, (01)19, 35–42 (2017).
9. Mustafa, A.: *The Effects of Working Environment on Employees' Productivity and Satisfaction in Google's Workplace*. *Journal of Management* 35(3), (2021).
10. Sedarmayanti.: *Tata Kerja dan Produktivitas Kerja*. Mandar Maju, Bandung (2017).
11. Kandula, R.S.: *Competency Based Human Resource Management*. Gate Corporation. Bangalore, Delhi. (2013).
12. Schultz, D. P.: *Working Condition and Work Today*. Pearson, New York (2010).
13. Bhastary, M. D., Kusri. S.: *Pengaruh Keselamatan dan Kesehatan Kerja (K3) dan Lingkungan Kerja Terhadap Produktivitas Karyawan di PT. Samudera Perdana*. *Jurnal Manajemen dan Keuangan*, 7(3). (2018).
14. Amelia, D.: *Pengaruh Kompetensi dan Lingkungan Kerja Terhadap Produktivitas Pegawai Negeri Sipil Dinas Tanaman Pangan Hortikultura Dan Perkebunan Provinsi Riau*. *Jurnal Ilmiah Manajemen dan Bisnis*, 2(3). (2020).
15. Marzani, N.: *Pengaruh Lingkungan Kerja dan Kompetensi Terhadap Produktivitas Karyawan*. PT. Sinar Mas Land. Tbk Tangerang. *Jurnal Manajemen Bisnis Krisnadwipayana*, 5(3). (2017).
16. Fahrizi, A., Meylinda, S.: *The Influence of Competence on Employee Productivity at PT. Indonesian Railways Regional Division IV Tanjung Karang Bandar Lampung*. *Journal of Economics, Finance and Business* 4(1). (2019).
17. Susanto, A.: *Pengaruh Lingkungan Kerja dan Kompetensi Individu Terhadap Produktivitas Pegawai Pada PT. Perkebunan Sumatera Utara*. *Jurnal Manajemen dan Bisnis* 18(1), 93–106 (2018).
18. Dhermawan, et al.: *Pengaruh Motivasi, Lingkungan Kerja, Kompetensi, dan Kompensasi Terhadap Kepuasan Kerja dan Produktivitas Pegawai*. *Jurnal Manajemen, Strategi Bisnis, dan Kewirausahaan* 6(2), (2012).

19. Rachmaniza, S.: Pengaruh Kompetensi dan Komitmen Organisasi terhadap Produktivitas Karyawan pada Divisi Produksi di PT. Sinar Ragamindo Utama Bandung. *SPeSIA Prosiding Manajemen* (6)1, 189–193 (2020).
20. Sudaryo, Y., Aribowo, A., Sofiati, N. A.: *Manajemen Sumber Daya Manusia; Kompensasi Tidak Langsung dan Lingkungan Kerja Fisik*. Andi, Semarang (2018).
21. Rahmawati, L.: The Influence of Competence, Work Discipline and Work Environment on Employee Productivity (Survey at PT. Bank Negara Indonesia). *Journal of Business and Development* 7(1), 254–267 (2018).
22. Paryanti, D.: The Influence of Competence and Motivation on Employee Productivity at PT. Antam Tbk Precious Metals. *Journal of Economics and Industry* 21(2), 22–30 (2020).
23. Saputra, A.: Pengaruh Kompetensi, Lingkungan Kerja dan Motivasi Berprestasi Terhadap Produktivitas Pegawai Negeri Sipil Sekretariat Daerah Kota Padang. *Jurnal Ilmiah Ekotrans & Erudisi* 1(1), 12-26 (2021).
24. Angreany, A.V.: Pengaruh Kompetensi, Motivasi, dan Lingkungan Kerja Terhadap Produktivitas Pegawai Pada Kantor Dinas Energi dan Sumber Daya Mineral Kabupaten Donggala. *Jurnal Katalogis* 5(1), 44-51 (2017).
25. Tjiabrata, F.R.: The Effect of Workload and Work Environment on Employee Productivity. *EMBA Journal: Journal of Economic Research, Management, Business and Accounting* 5(2) (2017).
26. Wijaya, I.G., Kawiana, I.M.: The Influence of Competence and Work Environment on Employee Productivity in the General Section of the Regional Secretary of Denpasar City (2021).
27. Haryadi, et al.: Pengaruh Kompetensi, Lingkungan Kerja, Pengembangan Karir Terhadap Produktivitas Karyawan PT. Sukses Abadi Karya Inti. *Jurnal Manajemen dan Sistem Informasi* 20(2) (2021).

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