



Analysis of Factors Affecting Labor Productivity in the Processing Department of Cocoa (*Theobroma cacao* L.) at PTPN XII Banjarsari Gardens, Jember, East Java

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ABSTRACT

This research aims to determine 1) the influence of age, incentives, length of service, job satisfaction, stress, work discipline, and family responsibilities simultaneously on labor productivity 2) the influence of age, incentives, length of service, job satisfaction, stress, work discipline, and partial family responsibilities on labor productivity 3) which has the most dominant influence on labor productivity. The method used in this research is a survey method using a questionnaire as a data collection tool. The research sample consisted of 30 workers in the cocoa processing department at the Banjarsari plantation as respondents. The analysis method uses multiple linear regression analysis with simultaneous analysis techniques or F tests and partial tests or t tests. Based on the results of the F test, the variables age, incentives, length of service, job satisfaction, stress, work discipline and family responsibilities together do not have a significant effect on labor productivity. For the t test results, only the work discipline variable has a significant effect on labor productivity, while age, incentives, length of service, job satisfaction, stress and family responsibilities have no effect on labor productivity.

Keywords — labor productivity, job satisfaction, work discipline, family responsibilities

1. Introduction

Cocoa (*Theobroma cacao* L.) is one of the products that has a quite real and reliable role in realizing agricultural development programs, especially in terms of providing employment opportunities, driving regional development, improving farmers' welfare, and increasing state income/foreign exchange. However, there are still many problems that have not been fully resolved, both at the raw material production level in the field, post-harvest and downstream industries. One of the problems that needs to be addressed is low labor productivity.

Productivity is generally defined as the relationship between output (goods or services) and input (labor, materials, money). Productivity is a measure of productive efficiency. A comparison between output and input results.

Input is often limited to labor, while output is measured in physical units, form, value [1].

Human resources are the most strategic element in an organization, which must be recognized and accepted by management. Increasing work productivity is only possible by humans. On the other hand, human resources can also be the cause of waste or inefficiency in various forms [1], therefore paying attention to the human element is one of the demands in overall efforts to increase work productivity.

Labor is every person who is able to do work both inside and outside the employment relationship to produce goods or services to meet needs. Labor is a factor in the production process that functions as a means of production. Labor is more important than other means of production such as raw materials, land, water, and capital.



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This is because humans are the ones who mobilize these resources to produce goods and services. The workers at Banjarsari Gardens are permanent workers and casual daily workers. The workers used as research subjects or respondents are casual daily workers, this is because by taking data from casual daily workers productivity can be measured because the work they do is seasonal, meaning that if there is production then they have work but if there is no production they no job.

Factors that can be observed to determine how much influence labor productivity has are age, length of service, bonuses, stress, job satisfaction, work atmosphere, and family responsibilities. As is known, the seven factors above can influence labor productivity in a company.

Age is one of the things that determines a person's activeness in carrying out work or business. The older a person is above the productive age at a certain peak point, the more their physical abilities decrease, especially with low wages and limited nutrition and health, work productivity automatically decreases. It is very likely that efforts will have to be made to increase their work productivity, therefore age is an important factor that can influence labor productivity.

Those with a long working period have more experience or someone is already an expert in their field so this can increase workforce productivity. Providing incentives to workers can attract workers' enthusiasm to be more active in their work and provide the best for their company.

Stress is a situation where a person experiences boredom, a block in thinking so that psychologically they experience mental disorders. Workers who experience stress can have a direct effect on productivity within the company.

A person tends to work enthusiastically if he can get satisfaction from his work and employee job satisfaction is a key driver of employee morale, discipline and work performance in supporting the realization of company goals [2]. High or good job satisfaction will make workers more loyal to the company or organization. The greater the motivation at work and high job satisfaction, the greater the

possibility of achieving high productivity and motivation.

Employees who are not satisfied with their work tend to withdraw or avoid themselves from work situations, both physical and psychological. Work discipline here is an attitude of loyalty and obedience of a person or group of people so that the rules, both written and unwritten, are reflected in the form of behavior and actions. If an employee has the ability and is an expert in his field, if he lacks high discipline, especially the level of loyalty and obedience to the company, it will result in hampering the employee's work productivity. Having many family responsibilities can motivate someone to work harder so that labor productivity is higher, but there is also the opposite

Plantations are all activities that cultivate certain plants on land and/or other growing media in a suitable ecosystem, processing and marketing goods and services resulting from these plants, with the help of science and technology, capital and management to create prosperity for plantation business actors and the community (Plantation Law No.18/2004). One example of a plantation crop is cocoa.

Cocoa processing is a place to accommodate and process all cocoa plantation products. In cocoa processing there are parts of the processing activity, namely the harvest received at the factory will be fermented in the fermentation section, then dried by drying (direct sunlight) and a cocoa dryer (using a machine), then taken to the sorting section to be separated based on the quality, then in the packaging section it is packaged according to the quality. This research was carried out in the cocoa processing section because in this section productivity is easier to measure because the work is seasonal and the cocoa processing place in Banjarsari Gardens is easier to reach because it is located not far from the main road, making it easier for researchers to collect data and information.

PTPN XII (Persero) Kebun Banjarsari is one of the government-owned plantation businesses (BUMN) that develops cocoa plants. PTPN Based on the explanation above, the seven factors above can influence the level of labor productivity, so the author chose the topic with the title "Factors that Influence Labor



Productivity in the Cocoa Processing Department (*Theobroma cacao* L.) at PTPN XII (Persero) Kebun Banjarsari Jember, East Java ”.

2. Method

The design of this research is survey research. Survey research is research that takes samples from a population and uses questionnaires as the main data collection tool [3].

2.1. Research Population, Size and Sampling Technique

Population is the subject of research. Meanwhile, the sample is a part or representative of the population studied. If there are less than 100 subjects then all samples taken if the subjects are above 100 can be taken between 10-15% or 20-25% [4].

The population of this research is all workers who work in the cocoa processing section at PTPN XII (Persero) Kebun Banjarsari Jember, East Java. Based on data from July 2010, the number of workers working at PTPN XII Kebun Banjarsari was 30 people. The entire population will be taken because the total population to be observed is less than 100 in accordance with Arikunto's opinion.

2.2. Operational Definition of Variables

The operational definitions of the seven variables are:

a. Age (X_1)

Age is the total age of the workforce calculated from birth until the time the research was conducted and measured in years. The indicators are the physical condition and work ability of workers.

b. Incentive (X_2)

Incentives are additional income that will be given to employees who can provide achievements in accordance with what has been determined.

The indicators of incentives are:

- Incentives can add to daily living needs.

- Incentives are in accordance with the agreement or agreement.

c. Years of service (X_3)

Work period is the length of time an employee has worked which is measured in years. The indicators are the length of time working in that section (processing) and the skills.

d. Job satisfaction (X_4)

Job satisfaction is an employee's attitude towards work which is related to the work situation, cooperation between employees, rewards received at work, and matters involving physical and psychological factors. Job satisfaction can be influenced by job placement that suits your skills, the severity of the work, or a comfortable work environment. The indicators are a feeling of security and comfort with the facilities used while working as well as comfort with co-workers and superiors (leaders).

e. Stress (X_5)

Job stress is a process that causes people to feel sick, uncomfortable or tense because of work, the workplace or certain work situations . The indicator is the workload received by workers.

f. Work Discipline (X_6)

Discipline is a person's willingness and readiness to obey and comply with the regulatory norms that apply around him. The indicators are the regulations that have been set and punctuality when working.

g. Family Dependents (X_7)

Family dependents are the number of family members whose living needs are the responsibility of the family, including husbands, children, parents or other family members who live in the same house or not (expressed in the soul). The indicators are the number of family members supported and the family's economic situation.

h. Productivity (Y)



Labor productivity is the amount of production produced by labor in the form of dry cocoa beans collected/ processed in processing factories. The indicator is the product (dry cocoa beans) produced within 7 hours a day.

2.3. Research Instrument

In accordance with the problem formulation, the research objective in this study used a research instrument in the form of a questionnaire to obtain research data about the factors that influence the productivity of processing workers at PTPN XII Banjarsari plantation, Jember, East Java.

According to [4], a questionnaire is a number of written questions used to obtain information from respondents in the sense of reports about their personality, or things they know. This questionnaire is often also referred to as a questionnaire.

The scale used in the questionnaire is the *Likert scale*. The *Likert scale* is used to measure attitudes, opinions and perceptions of a person or group of people about social phenomena. In research, this social phenomenon has been specifically determined by the researcher, which is hereinafter referred to as the research variable. With a *Likert scale*, the variables to be measured are translated into indicator variables. Then these indicators are used as a starting point for compiling instrument items which can be in the form of statements or questions. Instrument answers that use a *Likert scale* have a gradation from very positive to very negative in the form of the words strongly agree, agree, doubtful, disagree, strongly disagree [5].

2.4. Research sites

This research carried out in the cocoa processing section of PTPN XII (Persero) Banjarsari Plantation, Jember, East Java. The location was determined purposively based on the consideration that B Anjarsari Plantation was not too far away and easy to reach.

2.5. Data Collection Procedures

The data obtained in this research is primary data, namely data obtained directly from the source. In this research, primary data was

obtained directly from the research location through three methods:

a. Questionnaire

A questionnaire is a data collection device using closed questions that is asked to respondents to ask for the respondent's opinion about a problem.

b. Interview

Interviews were carried out by asking directly to human resources who were considered to have a lot of information related to the research object. This is to compare with the data obtained through the questionnaire.

c. Documentation

It is a technique for collecting information by studying documents related to the research object.

2.6. Analysis Techniques

For this research, several analytical techniques were used, including:

2.6.1. Validity test

Validity is a measure that shows the levels of validity or authenticity of an instrument. An instrument that is valid or valid has high validity, whereas an instrument that is less valid has low validity. An instrument is said to be valid if it is able to measure what is desired. An instrument is said to be valid if it can reveal data from the variables studied accurately. The high or low validity of the instrument shows the extent to which the data collected does not deviate from the description of the intended validity [4].

$$r_{XY} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X^2)\}\{N\sum Y^2 - (\sum Y^2)\}}}$$

Information :

- r_{XY} = Correlation coefficient
- X = Respondent's response for each question
- Y = Total respondent responses for all questions
- N = Number of respondents



2.6.2. Reliability Test

Reliability refers to an understanding that an instrument is trustworthy enough to be used as a data collection tool because the instrument is good. A good instrument will not be tendentious in directing respondents to choose certain answers. Instruments that are trustworthy and reliable will be able to produce reliable data too. If the data really matches reality, then no matter how many times it is taken it will still be the same. Reliability means, trustworthy, so reliable, [4]. In this research, the reliability test uses the Spearman-Brown formula [5], namely:

$$r_i = \frac{2r_b}{1+r_b}$$

Information :

r_i = Instrument Reliability

r_b = Correlation between instrument hemispheres

2.6.3. Multiple Linear Regression Analysis

This multiple linear regression analysis method is used to determine whether there is a significant influence of the independent variables (age, incentives, length of service, job satisfaction, work discipline, stress, family responsibilities) on the dependent variable, namely labor productivity at PTPN XII Banjarsari Jember, East Java. The multiple linear regression model can be formulated as follows [5].

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_7X_7 + e$$

Information :

Y = labor productivity

a = constant

b_{1-7} = regression coefficient of variable x_{1-7}

x_{1-7} = independent variable

e = regression error

2.6.4. Correlation Coefficient Analysis

Correlation coefficient analysis is a measurement to determine the closeness of the relationship between the independent variable (X) and the dependent variable (Y). The independent variables are work supervision (X_1

) and work discipline (X_2) with the dependent variable being work productivity (Y).

2.6.5. F test

The "F" test or overall regression coefficient test, to find out whether all independent variables (X) have an effect on the dependent variable (Y).

2.6.6. t test

The t test basically shows how far the independent variable partially influences the dependent variable. Testing was carried out with the help of the SPSS 17 application.

2.6.7. Coefficient of Multiple Determination (R^2)

The analysis of the coefficient of determination aims to find out how much the independent variable (X) contributes to the dependent variable (Y) or to test how much labor productivity in the cocoa processing section at PTPN XII Kebun Banjarsari is influenced by age, incentives, length of service, job satisfaction, stress, work discipline, and family responsibilities are calculated using coefficient of determination analysis

3. Discussion

3.1. Validity of Research Instruments

Validity testing is a tool used to determine the extent to which a research instrument can measure and reveal data from what will be measured (variables) in research accurately [3]. The validity test is carried out by correlating the score of each question item with the total score of each question item. The results of the validity test can be seen in the following table:

From the Table 1, it can be seen that all question items have a calculated r value greater than the r table (0.361) with a total research sample of 30 respondents. Based on the validity criteria, if the calculated r value is greater than the r table at an error level of 5% then the research instrument is declared valid.



Table 1. Results of Validity Test of Research Instruments Age, Incentives, Length of Service, Job Satisfaction, Stress, Work Discipline, and Family Dependencies on Labor Productivity

Variabel	Ite m	r _(hitung g)	r (tabel)	Kesimpul an
Usia (X1)	X1 ₁	0.746		Valid
	X1 ₂	0.637		Valid
	X1 ₃	0.733		Valid
Insentif (X2)	X2 ₁	0.694		Valid
	X2 ₂	0.625		Valid
	X2 ₃	0.623		Valid
	X2 ₄	0.650		Valid
Masa Kerja (X3)	X3 ₁	0.792		Valid
	X3 ₂	0.756		Valid
	X3 ₃	0.653		Valid
	X3 ₄	0.602		Valid
Kepuasan Kerja (X4)	X4 ₁	0.624		Valid
	X4 ₂	0.612		Valid
	X4 ₃	0.620		Valid
	X4 ₄	0.638	0,361	Valid
Stress (X5)	X5 ₁	0.755		Valid
	X5 ₂	0.642		Valid
	X5 ₃	0.553		Valid
	X5 ₄	0.625		Valid
Disiplin Kerja (X6)	X6 ₁	0.819		Valid
	X6 ₂	0.816		Valid
	X6 ₃	0.686		Valid
	X6 ₄	0.611		Valid
Tanggung Jawab Keluarga (X7)	X7 ₁	0.622		Valid
	X7 ₂	0.693		Valid
	X7 ₃	0.687		Valid
Produktivitas (Y)	Y ₁	0.604		Valid
	Y ₂	0.762		Valid
	Y ₃	0.696		Valid

Source : Primary Data

Table 2. Results of Reliability Test of Research Instruments Age, Incentives, Length of Service, Job Satisfaction, Stress, Work Discipline, and Family Dependencies on Workforce Productivity

Pengujian dengan Spearman Brown	Nilai r tabel n=30 α=5%	Keterangan
0.447	0.361	reliabel

Source : Primary Data

Based on the table above, it can be seen that the reliability coefficient value analyzed using the Spearman Brown formula was obtained at 0.447, which is greater than the reliability criteria contained in the r product moment table with a total of 30 respondents, namely > 0.361. Therefore, research instruments or data from research instruments can be trusted or reliable.

3.2. Multiple Linear Regression Analysis

Analysis of the results of research conducted on 30 workers in the cocoa processing department at Banjarsari Gardens, Jember - East Java will be able to show the influence of the independent variable (X) on the dependent variable (Y). The factors identified as variables in this research are: the independent variable (X) is age (X₁), incentives (X₂), length of service (X₃), job satisfaction (X₄), stress (X₅), work discipline (X₆), family responsibilities (X₇) and the dependent variable (Y) is work productivity. Based on the calculations carried out, the regression equation for the influence of age, incentives, length of service, job satisfaction, stress, work discipline, and family support on labor productivity is shown in the following table:

Table 3. Regression Coefficient Value of the Influence of Work Supervision and Work Discipline on Employee Work Productivity

No	Variabel		r
	Bebas	Terikat	
1	X1		0.120
2	X2		0.203
3	X3		-0.353
4	X4	Y	-0.514
5	X5		-0.016
6	X6		-0.092
7	X7		-0.189
Konstanta =		Adjusted R	Signifikasi =
22,383		square (R ²)=	0,027
R = 0,691		0,312	

Source : Primary Data

Based on the calculation results shown in the table, the multiple linear regression equation is as follows:

$$Y = 22.383 + 0.120 X1 + 0.203 X2 - 0.353 X3 - 0.514 X4 - 0.016 X5 - 0.092 X6 - 0.189 X7 + e$$

The multiple regression equation above can be explained in detail as follows:

- The constant value is 22.838

The positive constant value of 22.838 indicates that there are no factors such as age (X₁), incentives (X₂), length of service (X₃), job satisfaction (X₄), stress (X₅), work discipline (X



6), and family responsibilities (X7), then the labor productivity value (Y) 22.383. This means that if there are independent variables (X1)

- b. The regression coefficient value for the age variable (X1) is 0.120

The coefficient for the age variable (X1) has a positive value of 0.120, indicating that age has a positive influence on work productivity (Y). So every additional unit of age (X1) will increase labor productivity by 0.120. But on the other hand, if the age variable decreases by 0.120, labor productivity will decrease by 0.120. So the + (plus) sign shows a unidirectional relationship, where an increase or decrease in the independent variable (X) affects the dependent variable (Y).

- c. The regression coefficient value of the incentive variable (X2) is 0.203

incentive variable coefficient (X2) of 0.203 states that each addition (because of the + sign) of one incentive unit will increase labor productivity by 0.203, but conversely if there is a decrease in one incentive unit then labor productivity will decrease by 0.203.

- d. The regression coefficient value of the work period variable (X3) is -0.353

The coefficient of the length of service variable (X3) of -0.353 has a negative value. This means that each increase in the length of service will reduce labor productivity by 0.353, but conversely, if the length of service decreases, labor productivity will increase.

- e. The regression coefficient value for the job satisfaction variable (X4) is -0.514

The coefficient of the job satisfaction variable (X4) is -0.514 has a negative value. This means that every increase in job satisfaction will reduce labor productivity by 0.514, but conversely, if the length of service decreases, labor productivity will increase.

- f. The stress variable regression coefficient value (X5) is -0.016

The stress variable coefficient (X5) of -0.016 has a negative value. This means that each increase in stress will reduce labor productivity by 0.016, but conversely, if stress decreases, labor productivity will increase.

- g. The regression coefficient value for the work discipline variable (X6) is -0.092

The stress variable coefficient (X6) of -0.092 has a negative value. This means that every increase in work discipline will reduce labor productivity by 0.092, but conversely, if work discipline decreases, labor productivity will increase.

- h. The regression coefficient value for the family dependent variable (X7) is -0.189

The coefficient of the family dependent variable (X7) of -0.189 has a negative value. This means that each increase in family responsibilities will reduce labor productivity by 0.189, but conversely, if family responsibilities decrease, labor productivity will increase.

3.3. Correlation Coefficient Analysis (R)

The level of close relationship between the components of the independent variable and the dependent variable can be measured by looking at the correlation coefficient. Based on the results of calculations carried out using *the Statistical Program for Social Science (SPSS) 17.0 for Windows*, It is known that the correlation coefficient value is 0.691, indicating the level of relationship which is categorized as **strong**, this is in accordance with the information (Sugiyono, 2010 : 214) which states that the interval correlation coefficient is between **0.60-0.799**, qualitatively the relationship can be stated as **strong**.

3.4. Analysis of the coefficient of multiple determination (R^2)

Value of the coefficient of determination *Adjusted R Square* is used to determine the effect of the independent variable (X) on the dependent variable (Y). Changes in the dependent variable of work productivity (Y) caused by the independent variable (X), namely age (X1), incentives (X2), length of service



(X3), job satisfaction (X4), stress (X5), work discipline (X6), and family responsibilities (X7). From the results of the analysis carried out using the SPSS 17.0 for Windows program, it was found that the Adjusted R Square value was 0.312 or 31.2 % of the independent variable (X) influenced the dependent variable (Y), while the remaining 68.8 % was influenced by factors other than the variables in this research.

3.5. Simultaneous Regression Coefficient Test (F Test)

The simultaneous regression coefficient test is used to determine the effect of the independent (free) variable simultaneously (simultaneously) on the dependent (dependent) variable, whether the calculated F value $> F_{table}$ ($\alpha = 5\%$), the F test is carried out by comparing the calculated F value with the F_{table} value. The calculated F value can be seen from the Anova section table. The independent variable coefficients are age (X1), incentives (X2), length of service (X3), job satisfaction (X4), stress (X5), work discipline (X6), and family responsibilities (X7) on the labor productivity variable (Y). From the regression results, the F value is calculated of 2.877 and F_{table} of 2.470 meaning $F_{calculated} > F_{table}$ ($\alpha = 0.05$)

Table 4. F Test Analysis Results

Sources of Variation	Sum of Squares	Degrees of Freedom	Middle Square	F count	F table $\alpha = 5\%$	sig
Regression	24,549	7	3,507	2,877	2,470	0.027
Remainder	26,818	22	1,219			
Total	51,367	29				

Source : Data processed

From the table above it can be seen that the regression results obtained are $F_{count} (2.877) > F_{table} (2.470)$, so that means the variables are age (X1), incentives (X2), length of service (X3), job satisfaction (X4), stress (X5), work discipline (X6), and family responsibilities (X7) simultaneously have a significant effect on labor productivity (Y).

3.6. Partial Regression Coefficient Test (t Test)

The partial regression coefficient test is used to test whether the coefficient of each independent variable is age (X1), incentives

(X2), length of service (X3), job satisfaction (X4), stress (X5), work discipline (X6), and family responsibilities (X7), whether or not they have a partial effect on labor productivity (Y). If $t_{count} > t_{table}$ ($\alpha = 0.05$), then the factors, namely the independent variables, have a real influence on labor productivity in the cocoa processing section at PTPN XII Kebun Banjarsari **accepted**. On the other hand, if $t_{count} < t_{table}$ ($\alpha = 0.05$), then the factors, namely the independent variables, which have no real influence on labor productivity are **rejected**.

Table 5. Results of t test analysis

No	Variable		Regression Coefficients	Standard Error	Testing	
	X	Y			t_{count}	t_{table}
1	X1		0.120	0.183	0.656	
2	X2		0.203	0.132	1,536	
3	X3		-0.353	0.156	-2,259	
4	X4	Y	-0.514	0.155	-3,311	2,045
5	X5		-0.016	0.094	-0.174	
6	X6		-0.092	0.089	-1,035	
7	X7		-0.189	0.115	-1,645	

Source : Data processed

Partial regression coefficient test is used to determine the effect of each independent (free) variable to the dependent (bound) variable. This test is carried out by comparing the calculated t value with the t_{table} value. The calculated t value can be seen in the data processing results table in the *Coefficients section*. By comparing the calculated t value with the t_{table} it can be stated as follows:

- In the age variable (X1), the t_{count} is 0.656, meaning that $t_{count} < t_{table}$, namely $0.656 < 2.045$ so it can be said that the age variable (X1) has no significant effect on labor productivity (Y).
- calculated t value for the incentive variable (X2) is 1.536, meaning $t_{calculated} < t_{table}$, namely $1.536 < 2.045$ then it can be said that the incentive variable (X2) has no significant effect on labor productivity (Y).
- calculated t value for the work period variable (X3) is -2.259, meaning $t_{calculated} > t_{table}$, namely $-2.259 > -2.045$ so it can be said that the working period variable a (X3) has a significant effect on labor productivity (Y).

- d. calculated t value for the job satisfaction variable (X_4) is -3.311, meaning $t_{\text{count}} > t_{\text{table}}$, namely $-3.311 > -2.045$ so it can be said that the job satisfaction variable (X_4) has a significant effect on labor productivity (Y).
- e. calculated t value for the stress variable (X_5) is -0.174, meaning $t_{\text{count}} > t_{\text{table}}$, namely $-0.174 < -2.045$ so it can be said that the stress variable (X_5) does not have a significant effect on labor productivity (Y).
- f. calculated t value for the work discipline variable (X_6) is -1.035, meaning $t_{\text{count}} > t_{\text{table}}$, namely $-1.035 < -2.045$ so it can be said that the work discipline variable (X_6) does not have a significant effect on labor productivity (Y).
- g. calculated t value for the family dependent variable (X_7) is -1.645, meaning $t_{\text{count}} > t_{\text{table}}$, namely $-1.645 < -2.045$, so it can be said that the family dependent variable (X_7) does not have a significant effect on labor productivity (Y).

The results of data analysis obtained in research conducted at **PTPN**

$$Y = 22.383 + 0.120 X_1 + 0.203 X_2 - 0.353 X_3 - 0.514 X_4 - 0.016 X_5 - 0.092 X_6 - 0.189 X_7 + e$$

This shows that if there are no factors such as age (X_1), incentives (X_2), length of service (X_3), job satisfaction (X_4), stress (X_5), work discipline (X_6), and family responsibilities (X_7), then The value of employee work productivity (Y) will remain constant. This means that if the independent variables are age (X_1), incentives (X_2), length of service (X_3), job satisfaction (X_4), stress (X_5), work discipline (X_6), and family responsibilities (X_7) are equal to 0 (zero) then the value of the dependent variable (Y) is 22.383. The magnitude of the constant value shows a positive value, this means that there is a positive influence on labor productivity if the variables are age (X_1), incentives (X_2), length of service (X_3), job satisfaction (X_4), stress (X_5), work discipline (X_6), and family responsibilities (X_7) are constant or fixed.

The correlation coefficient is the level of close relationship between the independent variable and the dependent variable. The correlation coefficient (R) value obtained from the results of data analysis is 0.691, based on the provisions that the relationship between the independent variable and the dependent variable is included in the strong category (table 5.4). The percentage of relationship between the independent variable (X) and the dependent variable (Y) can be seen in the *Adjusted value R Square* is 0.312 or 31.2 % of the total independent variables in this study have an influence on the dependent variable, while the remaining 68.8 % is influenced by other factors outside the research variables carried out by the researcher. This can be caused by several factors, namely, when collecting data (respondents answer the questionnaire) there is a misunderstanding among respondents when answering questions so that the results of the answers are not as expected, the low level of education so that when answering they are just answering, and in The seven independent variables studied only had an influence of 31.2%, while the variables with the greatest influence were outside the research, for example training, workers in the processing section needed training to hone their skills. In this processing section there is a sub-section that requires special skills, namely the sorting section, in this section the workforce must be skilled in separating the qualities of cocoa beans, so that the workforce will more easily produce large quantities.

Based on the results of simultaneous testing using the F test, it was found that the calculated F value was 2.877, while the F_{table} was obtained from the degrees of freedom (dk) in the numerator (number of independent variables) = 7 and dk in the denominator ($n - k - 1$) = $30 - 7 - 1 = 22$ is 2.470, meaning that $F_{\text{count}} < F_{\text{table}}$, namely $2.877 > 2.470$. These results state that simultaneously (simultaneously) the independent variable (X) significant effect on the dependent variable (Y).

Partial test results using the t test, by comparing the calculated t and t_{table} , t_{table} obtained by $dk = n - 1$, namely $30 - 1 = 29$, so $t_{\text{table}} = 2.045$. The age variable (X_1), obtained t_{count} of 0.656, meaning that $t_{\text{count}} < t_{\text{table}}$, namely $0.656 < 2.045$ so it can be said that the age variable (X_1) has



no significant effect on labor productivity (Y). This means that every year the age of society increases, there is no change in labor productivity. Age can influence a person's level of maturity in thinking, including growing a person's interest in a job. Increasing age can increase workers' interest in doing their work because they are more mature in thinking and examining the benefits obtained so far from the work they do.

The conditions that occur in the field are that the majority of workers are of productive age between 22-55 years. The older a person is above the productive age (15-50 years), at a certain peak point, the more their physical abilities decrease, especially with low wages and limited nutrition and health, automatically work productivity decreases. It is very likely that efforts will have to be made to increase their work productivity. An unreal or insignificant influence occurs because the majority of those working in the processing section are workers who are still of productive age so their productivity is still good. This research supports research by Pamungkas [6] which concluded that partially age does not have a significant effect on productivity.

Partial test results for the Incentive variable (X2) Calculated t value $< t_{table}$, namely $1.536 < 2.045$ then it can be said that the incentive variable (X2) has no significant effect on labor productivity (Y). This research is different from previous research by [7] which stated that partially the length of service had a significant and negative effect of -0.834862 . Meanwhile, incentives have a positive effect on labor productivity. Workers will be more enthusiastic about working if there is additional income provided by the company. This variable does not have a significant effect because incentives will be given by the company if workers in the cocoa processing section have the opportunity to do their work outside of their targets and working hours. Apart from that, if the harvest obtained or entering the factory is small then the workers will not get a lot of cocoa beans to be processed in processing factories so they don't have the opportunity to get incentives.

The working period variable (X3) n value of $t_{calculated}$ on the working period variable (X3) is -2.259 , meaning $t_{calculated} < t_{table}$, namely -

$2.259 > -2.045$ so it can be said that the working period variable a (X3) has a significant effect on labor productivity (Y). This research is supported by previous research by [8], [7], [6] which states that work experience has a significant influence on labor productivity. The longer a person's working period will broaden his horizons and thereby increase his absorption of new things. Work experience itself will also increase a person's knowledge, intelligence and skills. The longer and more intensive the work experience, the greater the increase. This is what allows people to be able to produce goods and services that are increasingly numerous, varied and of high quality. From field data (attachment 6), data was obtained that of the 30 respondents their work period was between 0-5 years with a total of 11 (36.7%) respondents. This shows that with a number of respondents of 11 people their work period was less than the other respondents so their productivity was also This lack is proven by the minus sign (-) on the $t_{calculated}$ which means that if the working period is less, productivity will increase and vice versa, if the working period increases, productivity will decrease.

The job satisfaction variable (X4) has a $t_{calculated}$ value of -3.311 , meaning $t_{calculated} > t_{table}$, namely $-3.311 > -2.045$ so it can be said that the job satisfaction variable (X4) has a significant effect on labor productivity (Y). This research is different from previous research by Irawan (2006) which explained that the results of statistical test analysis turned out that the variable level of job satisfaction had no real influence on work productivity. Job satisfaction (*Job Satisfaction*) is a level where employees have positive feelings about work in the company where they work [9]. The workers in this processing section are familiar with each other and can work together well so that job satisfaction is achieved between co-workers, but satisfaction from receiving wages and comfort in the work environment is not felt by the workers so that the influence of this job satisfaction variable is very real. compared to the age variable which has an insignificant influence so that the hypothesis in this study the results or conclusions will be different.

The stress variable has a $t_{calculated}$ value on the stress variable (X5) of -0.174 , meaning $t_{calculated} > t_{table}$, namely $-0.174 < -2.045$ so it can

be said that the stress variable (X 5) does not have a significant effect on labor productivity (Y). Stress is a condition of tension that affects a person's emotions, thought processes and condition. This research is different from previous research by [10]. Stress in the workplace can be caused by a workload that is too heavy. The majority of workers do not feel the work they are doing is hard so this stress variable does not have a significant effect on their productivity.

The work discipline variable n value of t calculated on the work discipline variable (X 6) is -1.035 , meaning $t_{\text{calculated}} > t_{\text{table}}$, namely $-1.035 < -2.045$ so it can be said that the work discipline variable (X 6) does not have a significant effect on labor productivity (Y). This research is different from previous research by [11]. Work discipline has the main goal, namely to encourage self-discipline among employees to arrive at the office on time. By arriving at the office on time and carrying out tasks according to their duties, it is hoped that work productivity will increase [1]. The workers in this processing section have complied with the regulations by working using predetermined tools and working according to working hours so that this discipline variable does not have a significant effect on work productivity.

The family dependent variable n value of t calculated on the family dependent variable (X 7) is -1.645 , meaning $t_{\text{calculated}} > t_{\text{table}}$, namely $-1.645 < -2.045$, so it can be said that the family dependent variable (X 7) does not have a significant effect on labor productivity (Y). The number of family dependents has a close relationship with productivity, because human resources basically start from the family environment. The family's responsibilities are small, so the cost of living is also small, so motivation to work is low so productivity is also low. [12]. This research is supported by previous research by [13] which explains that the number of family dependents has no effect on the productivity of the rolling stock workforce in the small cigarette industry in Kalisat District, Jember Regency.

4. Conclusion

Based on the results of data analysis and discussion obtained from research data carried out at PTPN XII Kebun Banjarsari Jember - East Java, it can be concluded as follows:

- a. Together (simultaneously) the independent variables (X) have a significant effect on labor productivity (Y) in the cocoa processing section at PTPN XII Kebun Banjarsari Jember , East Java.
- b. The variables age (X1), incentives (X2) , stress (X5), work discipline (X6), and family responsibilities (X7) do not have a significant effect on labor productivity (Y) shown by partial test results (t test) with calculated values $t_{\text{count}} < t_{\text{table}}$, while variable length of service (X3) and job satisfaction (X4) have a significant effect on labor productivity (Y) as indicated by partial test results (t test) with calculated t values $> t_{\text{table}}$.
- c. Satisfaction variable has a dominant influence on labor productivity compared to other independent variables.

Researchers should examine other factors that have not been researched in this research, because other factors that influence labor productivity are quite large.

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