LINEAR REGRESSION ANALYSIS OF EMPLOYEE JOB SATISFACTION AT PT SINAR UTAMA NUSANTARA DELI SERDANG

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ABSTRACT

This research is entitled "Influence of Motivation, Communication and Work Environment on Employee Job Satisfaction at PT Sinar Utama Nusantara Deli Serdang". This study uses quantitative methods involving 70 respondents. Data was collected by using the distribution of questionnaires. The data obtained were analyzed using statistical formulas, namely by using multiple regression analysis whose management was carried out with the SPSS Version 16 program. The results of quantitative analysis showed that the t_{count} value was 5.527 while t_{table} was 2.012 and significant was 0.000 so that t_{count} was 5.527 > t_{table} 2,012 and significant 0.000 < 0.05, then H_1 is accepted and H_0 is rejected, which states that motivation has a positive and partially significant effect on job satisfaction. The t_{count} value is 4.204 while the t_{table} is 2.012 and significant is 0.042, so t_{count} 4.204 > t_{table} 2.012 and significant 0.042 > 0.05, then H_2 is accepted and H_0 is rejected, which states the communication has a positive and significant effect on job satisfaction. The t_{count} value is 6.532 while t_{table} is 2.012 and significant is 0.000, so that t_{count} 6.532 > t_{table} 2.012 and significant 0.000 < 0.05 then H_3 is accepted and H_0 is rejected, which states that the work environment has a positive and partially significant effect on job satisfaction. The value of Fcount is 80,287 and Ftable is 2,78 with a significant probability value of 0,000, so the regression model can be said that simultaneouslyin this study motivation, communication and work environment have a significant effect on employee job satisfaction.

Keywords: Motivation, Communication, Work Environment and Employee Job Satisfaction

1. Introduction

In a government or private organization or company, human resources are a very important asset. Due to the absence of human resources, an organization or company will find it very difficult to achieve its goals. Achieving the success of these goals really depends on the behavior and work attitudes of human resources. To manage all issues related to human resources, an organization or company provides a special section called human resource management. Managing human resources well is the main task of human resource management, in order to generate job satisfaction in the employees of the organization or company.

Employees who have a high level of job satisfaction at work will have a good impact on the organization or company, because employee job satisfaction will create pleasant feelings at work and improve the quality of employee work. Meanwhile, employees who do not get job satisfaction will

have difficulty experiencing progress in doing their work and will have a negative impact on the organization or company. Employees who experience dissatisfaction at work will feel that the work they do is a burden that must be done. This situation underlies a compulsion to work, so that the work done will not produce optimal results, in accordance with the goals and expectations of an organization or company.

The company that is the object of this research is PT Sinar Utama Nusantara, a company that operates in the plastic pipe industry, especially PVC pipes and HDPE pipes. This company was founded in 2003 in Deli Serdang, apart from being a market leader in the plastic pipe extrusion and accessories industry, this company has a well-known reputation as a project pipe specialist with the best quality. With the view that this company will continue to develop by means of achievement, product quality, level of consumer satisfaction.

2. Methods

This research uses quantitative research and a descriptive approach. The descriptive research approach as proposed by Sugiyono (2019) is defined as research carried out to determine the existence of the value of independent variables, either one or more variables (independent) without making comparisons or connecting them with other variables. The design of this research is explanatory (Explanatory Research), where according to Sugiyono (2017) this explanatory research is research that explains the casual relationship (cause - effect) between the variables that influence it. The cause - effect relationship in this research is the relationship between the influence of financial technology and employee performance literacy.

The population in the study was 70 employees, which means the entire population was used as a sample because the number was less than 100 respondents. The data sources in this research come from primary data and secondary data, namely data collected from interviews and distributing questionnaires as well as literature studies such as books, previous research, the internet, agencies related to research

3. Results and Discussion

This company is one of the companies in the city of Deli Serdang which operates in the plastic pipe industry, especially PVC pipes and HDPE pipes. Before being known as PT Sinar Utama Nusantara, this company's name was CV Fuji Jaya, which produces recycled PVC pipes and JIS standard PVC pipes without brands to meet the needs of the general public. Over time and the demand for pipe products became increasingly higher, this company developed and upgraded to a limited liability company with the name PT Sinar Utama Nusantara which finally registered and had a trademark, namely Denya. In 2003 PT Sinar Utama Nusantara was registered with LSPro and received an SNI product certificate. In 2004, in accordance with the company's vision and mission to always be at the forefront, PT Sinar Utama Nusantara made a new breakthrough by producing HDPE pipes and became the first company in North Sumatra to produce HDPE type pipes and distribute compression and spigot model HDPE fittings to the Indonesian community, especially regional areas. North Sumatra.

Description of Respondent Characteristics

The characteristics of the respondents which will be described below reflect the situation of the respondents studied including gender, age, length of work and highest level of education.

a. Characteristics Based on Gender

Table 1. Worker Status

		Frequency	Percent	Valid Percent
Valid	Man	63	90%	90%
	Woman	7	10%	10%
	Total	70	100%	100%

Source: SPSS Processing Results Version 16.0 (2023)

In table 1 it can be seen that of the 70 employees who were respondents, 63 were male (90%), while 7 were female (10%). This table shows that the number of employees of both genders is greater than that of female employees.

b. Characteristics of Respondents Based on Age

Table 2. Age

		Frequency	Percent	Valid Percent
Valid	< 20	7	10%	10%
	21-30	21	30%	30%
	31-40	35	50%	50%
	> 40	7	10%	10%
	Total	70	100	100

Source: SPSS Processing Results Version 16.0 (2023)

In table 2 it can be seen that there were 7 respondents aged < 20 years (10%), this illustrates that the respondents have sufficient experience in working. There were 21 respondents aged 21-30 years (30%), and 35 respondents aged 31-40 years (50%), and 7 respondents aged > 40 years (10%).

c. Characteristics of Respondents Based on Last Education.

Table 3. Education

		Frequency	Percent	Valid Percent
Valid	SMA	49	70%	70%
	D3	0	0	0
	S1	21	30%	30%
	Total	70	100	100

Source: SPSS Processing Results Version 16.0 (2023)

In table 3 it can be seen that 49 respondents (70%) were high school graduates or the most dominant, this illustrates that the respondents have sufficient knowledge in the field of control. There were 21 respondents with bachelor's degrees (30%).

d. Characteristics of Respondents Based on Years of Work

Table 4. Years of Work

		Frequency	Percent	Valid Percent
Valid	> 6 Tahun	28	40%	40%
	1-2 Tahun	14	20%	20%
	3-4 Tahun	21	30%	30%
	5-6 Tahun	7	10%	10%
	Total	70	100	100

Source: SPSS Processing Results Version 16.0 (2023)

In table 4 it can be seen that the respondents in this research had a working period of 1-2 years, namely 14 people (20%) of the total respondents. There were 21 respondents who had worked for 3-4 years (30%) and 7 respondents with a working period of 5-6 years (10%) and 28 respondents with a working period of > 6 years (40%).

Description of Research Variables

This research consists of 3 (three) independent variables, namely Motivation (X1), Communication (X2), Work Environment (X3), and 1 (one) dependent variable, namely Job Satisfaction (Y). In distributing the questionnaire, each statement item for each variable had to be filled in by 70 respondents. Questionnaire answers are provided in 5 alternative answers, namely:

a. Strongly Agree (SS) with a score of 5
b. Agree (S) with a score of 4
c. Undecided (N) with a score of 3
d. Disagree (TS) with a score of 2
e. Strongly Disagree (STS) with a score of 1

Validity and Reliability Testing

Validity testing is carried out to ensure whether the data is of good quality and suitable for carrying out the next test stage. If the data is invalid then the data must be deleted and not included in the next test. The basis for the assessment in the validity test is as follows:

a. If rcount > rtable then the statement is valid.
b. If rcount < rtable then the statement is invalid.

The SPSS output results show that the validity value is in the Corrected Item-Total column, which means that the correlation value between the score of each item and the total score in the tabulation of respondents' answers can be said to be valid (valid) because all the question items in each variable have a coefficient value greater than 0 .30.

Testing the reliability of each variable was carried out with Cronbach Alpha Coeficient using SPSS 16.0 software. The data obtained can be said to be reliable if the Cronbach's Alpha value is greater than or equal to 0.60. The SPSS output results show that the Cronbach's Alpha value is 0.868 > 0.60 for the 10 statement items on the job satisfaction variable. The SPSS output results show that the Cronbach's Alpha value is 0.872 > 0.60 for the 7 statement items on the communication variable. The SPSS output results show that the Cronbach's Alpha value is 0.826 > 0.60 for the 14 statement

items on the Work Environment variable. In this way, it can be interpreted that all the variables in this research are reliable or can be said to be reliable.

Classical Assumption Testing

a. Data Normality Test

Ghozali (2017:47) normality test aims to test whether in a regression, the confounding or residual variables are normally distributed or not.

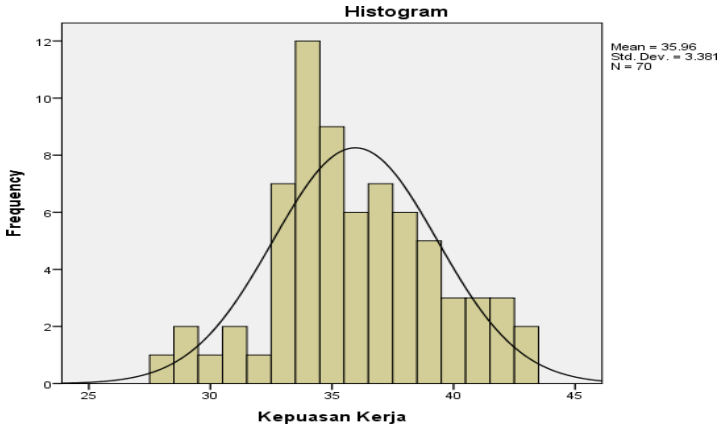

Figure 1. Normality Test Histogram
Source*: SPSS Processing Results Version 16.0 (2023)*

Based on Figure 1. the results of data normality testing show that the data is normally distributed, where the histogram image has a balanced convexity in the middle. Don't swing to the right or tilt to the left.

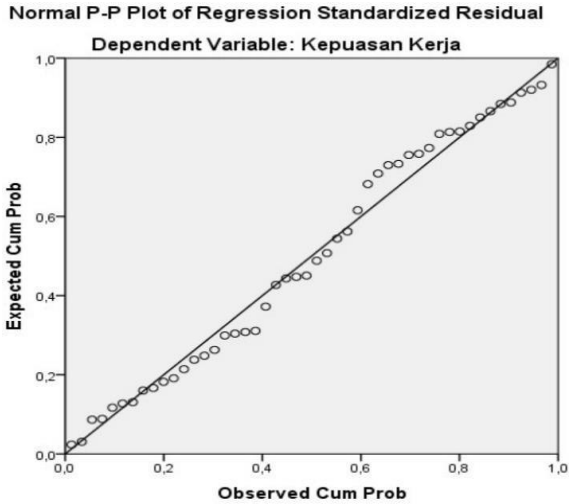

Figure 2. PP Plot Normalitas
Source*: SPSS Processing Results Version 16.0 (2023)*

Based on Figure 2 above, then for the results of testing data normality using the PP Plot image, it can be seen that the data points are spread around the diagonal line so that the data is normally distributed.

b. Kolmogorov-Smirnov Test

To further ensure whether the data along the diagonal line is normally distributed or not, the Kolmogrov Simornov test (1 sample KS) is carried out, namely by looking at the residual data whether the distribution is normal or not. If the Asym.sig value (2-tailed) > real level (a=0.05) then the residual data is normally distributed.

Table 5. One-Sample Kolmogorov-Smirnov Test One-SampleKolmogorov-Smirnov Test

		Unstandardized Residual
N		70
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	2.42005882
Most Extreme Differences	Absolute	.080
	Positive	.092
	Negative	-.080
Kolmogorov-Smirnov Z		.681
Asymp. Sig. (2-tailed)		.754

a. Test distribution is Normal.

In table 5 above, it can be seen that the results of the data processing, the Asymp Sig value is 0.754, so it can be concluded that the data is normally distributed, where the significance value is greater than 0.05. Thus, overall it can be concluded that the observation values The data is normally distributed and can be continued with other classical assumption tests. Based on the table above, it can be concluded that the data is normal because the asymp.sig value is above 0.05. So the data is said to be normally distributed.

c. Multikolinearitas Test

According to Ghozali (2017:50), the multicollinearity test aims to test whether in the regression model a correlation is found between the independent variables. This test was carried out by looking at the tolerance and variance inflation factor (VIF) values from the analysis results using SPSS. If the tolerance value is > 0.10 or VIF < 10 then it can be concluded that multicollinearity does not occur. The multicollinearity test can be seen in the following table:

Table 6. Uji Multikolinieritas

Model		T	Sig.	Collinearity Statistics	
				Tolerance	VIF
1	(Constant)	-2.621	2.802		
	Motivasi	0.358	0.047	0.619	1,650
	Komunikasi	0.318	0.084	0.953	1,075
	Lingkungan Kerja	0.576	0.082	0.516	1,689

a. Dependent Variable: Job satisfaction
Source: SPSS Processing Results Version 16.0 (2023)

Based on table 6. above, it can be seen that the Variance Inflation Factor (VIF) number is smaller than 10, including Motivation 1.650 < 10, Communication 1.075 < 10, and Work Environment 1.689 < 10 and the Collinearity Statistics Tolerance Motivation value 0.619 > 0.10 , Communication 0.953 > 0.10, and Work Environment 0.516 > 0.10 so it is free from multicollinearity.

d. Heteroskedastisitas Test

According to Ghozali (2017:52), the heteroskedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. A good regression model is one where heteroscedasticity does not occur

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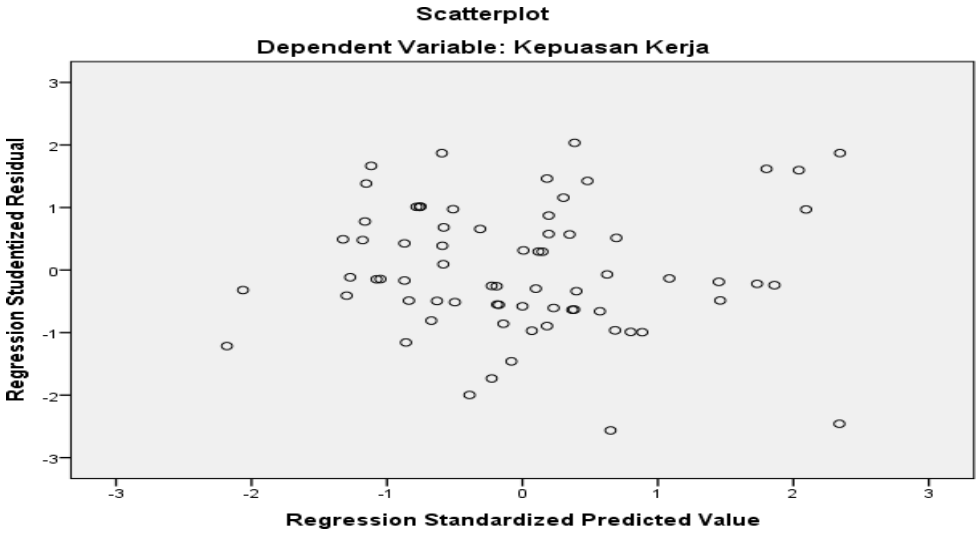

Figure 3. Scatterplot Uji Heteroskedastisitas
Source: SPSS Processing Results Version 16.0 (2022)

Based on Figure 3 above, the scatterplot image shows that the resulting points are spread randomly and do not form a particular pattern or trend line. The results of this test show that this regression model is free from heteroscedasticity problems, in other words: the variables that will be tested in this research are homoscedastic..

Multiple Linear Regression

Multiple linear regression aims to calculate the magnitude of the influence of two or more independent variables on one dependent variable and predict the dependent variable using two or more independent variables. The multiple regression analysis formula is as follows:

Y = α + b1X1 + b2X2+ b3X3 + e

Table 7. Multiple linear regression

Coefficientsa			
	Unstandardized Coefficients	Std. Error	Standardized Coefficients
(Constant)	-2.621	2.802	
Motivasi	0.358	0.047	0.589
Komunikasi	0.318	0.084	0.532
Lingkungan Kerja	0.576	0.082	0.563

Dependent Variable: Kepuasan Kerja
Source: SPSS Processing Results Version 16.0 (2023)

Based on Table 7, the following multiple linear regression is obtained
Y = -2,621 + 0,358 X1 + 0,318 X2 + 0,576X3 + e.

The interpretation of the multiple linear regression equation is:
1) If everything in the independent variables is considered zero then job satisfaction (Y) is -2.621.
2) If there is an increase in motivation by 1 (one) unit, then job satisfaction (Y) will increase by 0.358 units.
3) If there is an increase in communication by 1 (one) unit, then Job Satisfaction (Y) will increase by 0.318 units.
4) If there is an increase in the Work Environment by 1 (one) unit, then Job Satisfaction (Y) will increase by 0.576

Uji Hipotesis

a. Partial Significance Test (t Test)

This test was carried out using a significance level of 5%. If the significance value of t <0.05 means that there is a significant influence between one independent variable and the dependent variable. If the significance value of t is > 0.05, it means that there is no influence between the independent variable and the dependent variable. The steps taken in testing are as follows:

1) Develop a null hypothesis (H0) and alternative hypothesis (H1)
   H0: It is suspected that the independent variable has no significant effect on the dependent variable.
   Hi: it is suspected that the independent variable.
2) Determine the test criteria as follows:
   Accept H0 (reject Hi), if tcount < ttable or sig t > α 5%.
   Reject H0 (accept Hi), if tcount > ttable or sig t < α 5%.

Hasil uji Signifikan Parsial (Uji t) dapat dilihat dalam Table 8. berikut ini:

Table 8. Partial Test

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.621	2.802		-0.806	0.374
	Motivasi	0.358	0.047	0.462	5.527	0.000
	Komunikasi	0.318	0.084	0.414	4.204	0.042
	Lingkungan Kerja	0.576	0.082	0.570	6.532	0.000

a. Dependent Variable: Job Satisfaction

Source: SPSS Management Results Version 16.0 (2023*)*

Based on Table 8. Above it can be seen that:

1) The influence of motivation on job satisfaction is 35.8%. The t value is 5.527, while the t table is 2.012 and is significant at 0.000 so that t count is 5.527 > t table 2.012 and is significant 0.000 < 0.05, so H1 is accepted and H0 is rejected, which states that motivation has a positive effect and partially significant on job satisfaction.
2) The effect of communication on job satisfaction is 31.8%. The tcount value is 4.204, while the ttable is 2.012 and is significant at 0.042, so that tcount is 4.204 > ttable 2.012 and is significant 0.042 < 0.05, so H2 is accepted and H0 is rejected, which states that Communication partially positive and significant effect on job satisfaction.
3) The Influence of the Work Environment on Job Satisfaction. The tcount value is 6.532, while the ttable is 2.012 and is significant at 0.00, so that tcount is 6.532 > ttable 2.012 and is significant 0.000 < 0.05, so H3 is accepted and H0 is rejected, which states that the work environment has a positive effect and partially significant on job satisfaction.

b. Simultaneous Significant Test (F Test)

In this research, 3 independent variables were used and 1 dependent variable so that the value of k = 4, the value of df1 = 3 (4-1) and the value of df2 = 70 (70-4). From the distribution table of F-table values, the F-table value = 2.78.

Table 9. Uji Simultan

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1377.162	3	459.054	80.287	.000[a]
	Residual	356.603	66	5.403		
	Total	1733.765	69			

a. Predictors: (Constant), Lingkungan Kerja, Komunikasi, Motivasi

b. Dependent Variable: Kepuasan Kerja

Sumber: Hasil Pengolahan SPSS Versi 16.0 (2023)

Based on table 9. above, it can be seen that the Fcount value is 80.287 while the Ftable is 2.78 which can be seen at $\alpha = 0.05$ (see attached table F). The probability of significance is much smaller than 0.05, namely 0.000 < 0.05, so in the regression model it can be said that simultaneously in this research motivation, communication and work environment opportunities have a significant effect on employee job satisfaction. So Hypothesis (4) is accepted.

c. Coefficient of Determination

The coefficient of determination (R2) is used to determine the degree of relationship between the independent variable and the dependent variable. If the R2 value is getting closer to one then the existing independent variables can provide almost all the information needed to predict the dependent variable and vice versa if R2 is getting closer to zero then the independent variables cannot provide the information needed to predict the dependent variable. The coefficient of determination (R2) is between 0 and 1.

Table 10. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of theEstimate
1	0.988	0.894	0.823	2,705

a. Predictors: (Constant), Motivasiasi, Komunikasi dan Lingkungan Kerja
b. Dependent Variable: Kepuasan Kerja

Sumber: Hasil Pengolahan SPSS Versi 16.0 (2023)

Based on Table 10. above, you can see the adjusted R Square figure of 0.823 which can be called the coefficient of determination, which in this case means that 82.3% of job satisfaction can be obtained and explained by motivation, communication and work environment while the remaining 16% is explained by other factors or external variables such as opportunities for advancement, performance, company and management, supervision, social aspects of work, facilities and leadership style.

4. Conclusion

Based on the results of the research and analysis that has been carried out, several conclusions have been obtained that can answer the problem formulation in this research, namely:

a. The tcount value is 5.527 while the tTable is 2.012 and is significant at 0.000 so that tcount is 5.527 > tTable 2.012 and is significant 0.000 < 0.05, so H1 is accepted and H0 is rejected, which states that motivation has a partially positive and significant effect on job satisfaction.
b. The tcount value is 4.204 while the tTable is 2.012 and is significant at 0.042 so that tcount is 4.204 > tTable 2.012 and is significant 0.042 < 0.05, so H2 is accepted and H0 is rejected, which states that communication has a partially positive and significant effect on job satisfaction.
c. The tcount value is 6.532, while the tTable is 2.012 and is significant at 0.000, so that tcount is 6.532 > tTable 2.012 and is significant 0.000 < 0.05, so H3 is accepted and H0 is rejected, which states that the work environment has a partially positive and significant effect on job satisfaction.
d. The Fcount value is 80,287 while the FTable is 2.78 with a significant probability value of 0.000, so the regression model can be said that simultaneously in this research motivation, communication and work environment have a significant effect on employee job satisfaction.

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