THE IMPLEMENTATION OF OHS WORK SAFETY MANAGEMENT ACCORDING TO MINISTRY OF LABOR REGULATION NO.9 YEAR 2016

(Case Study: Construction of Elevated Rail Solo Balapan- Kadipiro)

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Abstrak

Berdasarkan Undang-Undang Nomor 13 Tahun 2003 pasal 87 ayat 1 tentang Ketenagakerjaan menunjukkan "Setiap Perusahaan wajib menerapkan manajemen keselamatan dan kesehatan kerja yang terintegrasi dengan sistem manajemen perusahaan. Hal ini memerlukan pendekatan yang cermat dan teratur terhadap aspek keselamatan dan kesehatan kerja, khususnya karena melibatkan jiwa individu yang bekerja dalam pelaksanaan proyek konstruksi. Oleh karena itu, penelitian yang dilakukan pada Proyek Pembangunan Jalan Tol Layang Solo Balapan - Kadipiro ini, bertujuan untuk mengetahui pelaksanaan K3 pada proyek tersebut berdasarkan Peraturan Menteri Ketenagakerjaan Republik Indonesia Nomor 9 Tahun 2016, yang akan membahas tentang K3 pada Pekerjaan di Ketinggian dan juga untuk mengetahui pengaruh Peraturan Menteri Ketenagakerjaan Republik Indonesia Nomor 9 Tahun 2016 terhadap pelaksanaan K3 pada proyek tersebut. Pengumpulan data berupa penyebaran kuesioner kepada para pekerja. Dengan hasil analisis penerapan K3 pada proyek tersebut, termasuk dalam tingkat penilaian penerapan SANGAT BAIK dengan tingkat pencapaian 88%. Berdasarkan hasil analisis regresi linier, Peraturan Menteri Ketenagakerjaan Republik Indonesia No.9 Tahun 2016 memiliki pengaruh terhadap K3 pada proyek. Berdasarkan hasil analisis regresi linier, Permenaker No.9 Tahun 2016 memiliki pengaruh terhadap K3 pada proyek dimana terdapat 7 variabel yang berpengaruh signifikan terhadap K3 pada proyek dan 5 variabel yang tidak berpengaruh signifikan terhadap K3 pada proyek.

Kata kunci: K3, Peraturan Menteri Tenaga Kerja Republik Indonesia No.9 Tahun 2016, Keselamatan dan Kesehatan Kerja.

Abstract

Based on Law Number 13 of 2003 number 87 paragraph 1 concering Manpower states which is “Every Company is obliged to implement an occupational health and safety management that I very integrated with the company’s management system. This clearly needs serious and systematic handling of occupational safety and health because it concerns the human soul that works on the implementation of construction. Therefore, the research conducted on the construction of the Solo Balapan – Kadipiro Elevated Rail Road Construction Project, aims to determine the implementation of OHS in the project based on Indonesian Ministry of Manpower Regulation Number 9 of 2016, which will discuss OHS in Work at Altitude and also to determine the influence of Indonesian Ministry of Manpower Regulation No.9 of 2016 on the implementation of OHS in the project. Data collection in the form of distributing questionnaires to workers. With the results of the analysis of the implementation of OHS on the project, including the level of assessment of the implementation of VERY GOOD with an achievement level of 88%. Based on the result of linear regression analysis, Indonesian Ministry of Manpower Regulation No.9 of 2016 has an influence on OHS on the project. Based on the results of

linear regression analysis, Ministry Of Labor Regulation No.9 of 2016 has an influence on OHS on the project which has 7 variables that have a significant effect of OHS in the project and 5 variables that do not have a significant effect for OHS in the project

Keywords: OHS, Indonesian Ministry of Manpower Regulation No.9 of 2016, Occupational Safety and Health.

1. INTRODUCTION

One of the purpose of implementing occupation safety and health (OHS) is to avoid work incidents themselves. In the implementation of construction, it is required not to occur or minimize work accidents in one way is to implement a good occupation safety and health (OHS) in accordance with applicable regulations (Prabowo et al., 2019). The implementation of OHS is under the governmental regulation of Republic Indonesia, specifically Regulation Number 50 of the year 2012 Article 5 paragraphs 1 and 2 concering the implementation of OHS states that “Every company that emply workers of at least 100 people or more, has a high potential danger". So that the identification of hazards will be reviewed in complience with the Regulation of Minister Manpower of The Republic Indonesia Number 9 of 2016 about OHS in height working (Pricilia, Yolanda (2021).

OHS also has an influence on the productivity of construction workers and how the implementation of OHS protection in the Semarang City Health Office Project. This study was conducted on observation in the field. The outcome of the study that the use of complete HSE in construction so it’s did not reduce productivity (Prihatmoko, 2020). Analyzing many construction companies has looking accident as accidents as accidental,unexpected and therefore not included in the management of construction which want to avoid future accidents, minimize looses and damages, and enhance efficiency, it is crucial to systematically analyze all occurrences of accidents.

Therefore, a study was conducted entitled " The Implementation Of Ohs Work Safety Management According To Ministry of Labor Regulation No.9 Year 2016 (Case Study: Construction of Elevated Rail Solo Balapan- Kadipiro)"

2. METHOD

The location of research was performed at Solo Balapan – Kadipiro Elevated Rail Road Construction Project. The study was conducted at a time when high-altitude work was underway in September 2023. The image bellow is the location of the construction of elevated rail Solo Balapan – Kadipiro.

Figure 1. Location

(Source: Google Earth)

This research method uses quantitative method, data obtained through the distribution of questionnaires in the field directly and then data testing is performed using *SPSS* and Eksel. The scale of counting the variable of data in this research questionnaire uses a modification of the Likert Scale (4) four answer choices. The method used for this cuantitive analysis was consist into several test, instrument analysis to determine the variables that will be taken to determine the contents of the questionnaire which is guided by To Ministry of Labor Regulation No.09 of 2016 in order to produce valid and reliable data. Classical assumption test to see data normality, influence and correlation between variables. Test the implementation of the *OHS* percentage on the project and the last is multiple linear regression analysis to see the effect To Ministry of Labor Regulation No.09 of 2016 on *OHS* on the project. Intrusment analysis for which can be seen on flow chart bellow:

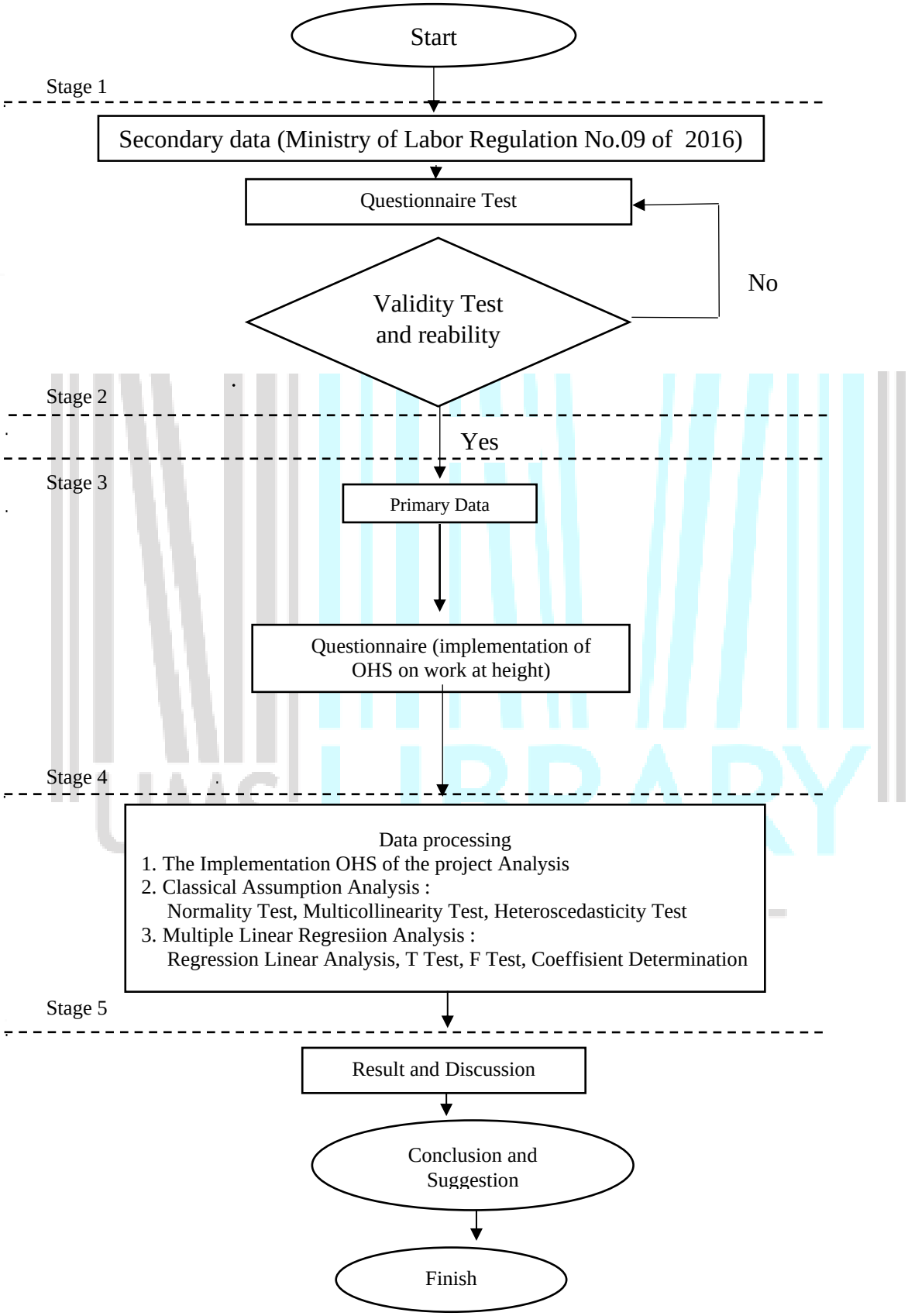

Figure 2. Research Framework

The analysis that conduct in this research to find the result was consist into several analysies:

2.1 Instrument Test Analysis

The analysis of instrument test is use for finding quisionarre variable and was consist into 3 steps:

2.1.1 Findin N sample

Before the dessimination of quissionare is finding amount of respondent. According to Riyanto and Hatmawan (2020) *the slovin* formula can be formulated to finding amount of respondent, as stated:

$$\mathbf{n} = \frac{N}{1+Ne^2} \quad (1)$$

n = Sample number of respondent

N = Number of population

E = Persentage of sampling error accuracy was e=0,1. After found the amount of sample, the next step is spreading the quisionarre and measuring validity and reability test.

2.1.2 Validity Test

Measuring the validity of quisionare variable is used a Validity Test, the validity test criterion is to compare the calculation of r value (pearson correlation) with the r value of the table. In determining value of r table, in the column df used the formula N-2, which N is amount of respondents.

The lowest requirement to be considering for validity is, if r counts > r table and the nerve significance is 5% with n = 10. If r counts > r table ,the item of quisionare was valid, and if r count < r table then the question is considered invalid and not used in research. After finishing the validity test and the result of each variable of instruments was valid, the instruments must be Reliable.

2.1.3 Reliability Test

Formula used for the reliability test of the instrument used is to use the KR 20 formula.

$$r_{11} = \left[\frac{k}{(k-1)}\right]\left[1 - \frac{\sum \sigma^2 b}{\sigma^2 t}\right] \quad (2)$$

Where:

r_{11} = Alpha Coefficient Reability

k = Number of items

$\sum \sigma^2 b$ = Total Item Variances

$\sigma^2 t$ = Total Variances

The Reability Cronbarch Alpha can be found at Table 1

Table 1 Reability level based on Cronbarch Alpha Value

Croanbarch Alpha Value	Reability Value
0,0 - 0,20	Less Raliable
>0,2 - 0,40	Kinda Reliable
>0,40 – 0,60	Quite Reliable
>0,60 – 0,80	Reliable
>0,80 – 1,00	Very Reliable

In table IV.2 it is said to be reliable if the coefficient is > 0.60 – 0.80 and very reliable if the coefficient is > 0.80 – 1.00, means that variables in the questionnaire was reliable to use.

2.2 Implementation Analysis

After finding validable and reliable questionnaire instruments results, the next step is the questionnaires distribution to 30 samples of respondent. The percentage analysis process of OHS implementation on the project will be carried out by the formula:

$$x\% = \frac{A}{B} x100\% \quad (3)$$

X = Presentation of OHS implementation results on each Variable

A = Number of Answer Variables

B = Largest Number of Answer Variables

2.3 Classical Assumption Test

After the questionnaire data is obtained, a Classical Assumption Test is also conducted to produce the model of regression with best linear estimator criteria. Classical Assumption Test consist of Normality Test, Multicollinearity Test and Heteroscedasticity Test.

2.3.1 Normality Test

The normality test in this research applied with Shapiro-Wilk statistical test because the study sample was less than 50. The conclusion of the normality test outcome is visible from the processed data on SPSS with these criteria:

1) If the significance value > 0.05, then it is declared normal distributed data.
2) If the significance value < 0.05, then it is declared that the data is abnormally distributed.

2.3.2 Multicollinearity test

The multicollinearity test is a test to see the linear relationship among independent variables in multiple regression. The purpose of the multicollinearity test is examined the connection among each variable. To identify a strong correlation among independent variables and could be accomplished through various methods, one of these methods is to use Tolerance and Variance Inflation Factor (VIF) (Ghazali, 2017). Tolerance quantified the variability of selected independent variables that is not explained by other independent variables. Hence, a high VIF value is indicative of low tolerance. The presumptions of Tolerance and Variance Inflation Factor (VIF) can be expressed in the following way:

a) If the VIF > 10 and the Tolerance value < 0.10 then multicollinearity occurs.
b) If the VIF < 10 and the Tolerance value > 0.10 then multicollinearity does not occur (Ghazali, 2017)

2.3.3 Heteroscedasticity Test

This test is performed because a good regression model does not allow heteroscedasticity, which is a high variance difference in residuals between variables. The Glejser Test method is used in this research, where the outcome of the significant t-count value (sig) were more than 0.05 ($p > 0.05$). will produce data that is not heteroscedasticity or all independent variables contained in this data have the same or homogeneous variance.

The test of accumption classis is important to produce a regression model that fulfills the requirements of BLUE (Best Linear Unbiased Estimator). After found the good result as conduct into normal data, has a high correlation among variable, and has a good regresion model between residual variable, next analysis is Multiple Linear Regression Analysis.

2.4 Multiple Linear Regression Analysis

2.4.1 Multiple linear regression analysis

Regression analysis is applied to quantify the extent of influence between the independent variable and the dependent variable. In the case where there is just one independent variable and one dependent variable, the regression is referred to as simple linear regression.

With this analysis we can predict the behavior of dependent variables using dependent variable data. Multiple regression analysis is developed with

$$Y = a + b\,1\,X_1 + b\,2\,X_2 + \ldots + b\,n\ X_n. \quad (4)$$

Where:

Y = Dependent Variable (Implementation of OHS on poyek)

X_1, X_2, X_n = Independent Variable (Ministry Of Labor Regulation No.9 of 2016)

A, b_1, b $_{2,}$ b_n = Parameters that must be guessed from the data and can be obtained by solving simultaneous linear equations from the calculation (Tesa Nur Padilah, 2019).

2.4.2 Test t (Partial)

T Test applied to assess the effect of the independent variable (X) individually dependent variable (Y). Ho and Ha formulations are as:

1) Determining the test hypothesis

   Ho = there is an influence between the application of Ministry Of Labor Regulation No.9 of 2016 on OHS on the project

   Ha1 = There is no influence between the application of Ministry Of Labor Regulation No.9 of 2016 on OHS on the project

2) Determining the significance level Using 0.05 (α = 5%) = 5%).
3) Test criteria

   Method 1 :

   1) Sig < 0.05, Ho accepted, Ha rejected
   2) Sig >0.05, Ho rejected, Ha accepted

2.4.3 F Test (Simultaneous)

This test is to determine the effect of the independent variable (X1, X2, X3) simultaneously on the bound variable (Y). The test steps in determining the formulation of Ho and Ha

1) Determining the test hypothesis

   Ho = there is no simultaneous influence between the application of Ministry Of Labor Regulation No.9 of 2016 on OHS on the project

   Ha = there is a simultaneous influence between the application of Ministry Of Labor Regulation No.9 of 2016 on OHS on the project

2) Determining the significance level Using 0.05 (α = 5%) = 5%).

2.4.4 Test criteria:

Method 1

a) Sig < 0.05, Ho is accepted and Ha is rejected.
b) Sig > 0.05, Ho rejected and Ha accepted

Coefficient of Determination

The test of the coefficient of determination is conducted to assess the model's capability in elucidating the collective impacts of independent variables (simultaneously) on the dependent variable, as marked by the value of R^2 (Ghozali, 2016).

3. RESULTS AND DISCUSSION

3.1 Instrument Test

3.1.1 Number of participants for questionnaire distribution

$$n = \frac{43}{(1+43*(0,1^2)} = 30.1 \text{ respondents} \quad (5)$$

So that the research sample used was 30 respondents.

3.1.2 Validity Test

Find the value of DF (degree of freedom) or degrees *of freedom* with the formula (df = n – 2). Where N is the sample magnitude. if the sample is 10, then DF = 10 – 2 = 8. The table r value for N= 8 is 0.632. Therefore, the validity test of the analysis in this research is claimed to be valid if the results of the questionnaire have a correlation of > value of 0.632 (Sugiyono, 2016). Based on these results, it is visible in table I.1 the outcome of the validity test on workers.

Table 2 Validity Test

Variable	Sub Variable	r-count	p-value	r table	Conclusion
Management (X1)	X1.1	0,660	0,00	0,632	VALID
	X1.2	0,636	0,00	0,632	VALID
Hazardous Area (X2)	X2.1	0,932	0,00	0,632	VALID
	X2.2	0,932	0,00	0,632	VALID
	X2.3	0,901	0,00	0,632	VALID
Falling Objects (X3)	X3.1	0,778	0,00	0,632	VALID
	X3.2	0,880	0,00	0,632	VALID
	X3.3	0,901	0,00	0,632	VALID
Emergency Preparedness (X4)	X4.1	0,880	0,00	0,632	VALID
	X4.2	0,758	0,00	0,632	VALID
	X4.3	0,901	0,00	0,632	VALID
	X4.4	0,901	0,00	0,632	VALID
Work Techniques (X5)	X5.1	0,779	0,00	0,632	VALID
	X5.2	0,880	0,00	0,632	VALID
	X5.3	0,880	0,00	0,632	VALID
Hazard Mitigation (X6)	X6.1	0,779	0,00	0,632	VALID
	X6.2	0,779	0,00	0,632	VALID
Work on an Inclined Plane (X7)	X7.1	0,932	0,00	0,632	VALID
	X7.2	0,813	0,00	0,632	VALID
Safety Factor (X8))	X8.1	0,715	0,00	0,632	VALID
	X8.2	0,740	0,00	0,632	VALID
Fall Prevention Devices (X9)	X9.1	0,779	0,00	0,632	VALID
	X9.2	0,779	0,00	0,632	VALID
Competency of Cuttings Holder (X10)	X10.1	0,778	0,00	0,632	VALID
	X10.2	0,656	0,00	0,632	VALID
Supervision (X11)	X11.1	0,778	0,00	0,632	VALID

	X11.2	0,680	0,00	0,632	VALID
Sanctions (X12)	X12.1	0,778	0,00	0,632	VALID
	X12.2	0,813	0,00	0,632	VALID
	X12.3	0,932	0,00	0,632	VALID

The validity test outcome on 10 participants were "valid" because the results of the r-count were > than the r-table (Sugiyono, 2016).

3.1.3 Reliability Test

Researchers assess the reliability of a variable involves examining Cronbach Alpha's, with a significance level set above 0.60. The variable is claimed to *be reliable* if it provides a Cronbach Alpha value of > 0.60 (Ghozali, 2018).

Table 3 Reliability Test results

Variable	Variable	Cronbarch Alfa	Cronbarch Alfa Minimum	Conclusion
Management (X1)	X1.1	0,978	0,6	RELIABLE
	X1.2	0,977	0,6	RELIABLE
Hazardous Area (X2)	X2.1	0,976	0,6	RELIABLE
	X2.2	0,977	0,6	RELIABLE
	X2.3	0,979	0,6	RELIABLE
Falling Objects (X3)	X3.1	0,977	0,6	RELIABLE
	X3.2	0,979	0,6	RELIABLE
	X3.3	0,977	0,6	RELIABLE
Emergency Preparedness (X4)	X4.1	0,976	0,6	RELIABLE
	X4.2	0,977	0,6	RELIABLE
	X4.3	0,977	0,6	RELIABLE
	X4.4	0,978	0,6	RELIABLE
Work Techniques (X5)	X5.1	0,977	0,6	RELIABLE
	X5.2	0,977	0,6	RELIABLE
	X5.3	0,977	0,6	RELIABLE
Hazard Mitigation	X6.1	0,976	0,6	RELIABLE
	X6.2	0,976	0,6	RELIABLE
Work on an Inclined	X7.1	0,977	0,6	RELIABLE
	X7.2	0,977	0,6	RELIABLE
Safety Factor (X8))	X8.1	0,977	0,6	RELIABLE
	X8.2	0,976	0,6	RELIABLE
Fall Prevention	X9.1	0,978	0,6	RELIABLE
	X9.2	0,978	0,6	RELIABLE
Competency of Cuttings	X10.1	0,977	0,6	RELIABLE
	X10.2	0,977	0,6	RELIABLE
Supervision (X11)	X11.1	0,978	0,6	RELIABLE
	X11.2	0,978	0,6	RELIABLE
Sanctions (X12)	X12.1	0,977	0,6	RELIABLE
	X12.2	0,977	0,6	RELIABLE
	X12.3	0,976	0,6	RELIABLE

The outcome of the reliability test on 10 respondents indicated that the instrument utilized in the research to gather the information can be considered "reliable". This suggests that the tool is reliable for collecting data and can accuratey reveal information in the field because the results of Coanbarch alpha > of 0.60. (Ghozali, 2018).

3.2 Results of OHS Implementation Level Analysis

The result of implementation percentage implementation is on Table I.3

Table 4 Variable Moving

No.	Variable		SS	S	TS	STS	Jumlah	Presentase	Indikator
1	X1.1	Management (X1)	112	6	0	0	118	98%	Very Good
	X1.2		100	6	0	1	107	89%	Very Good
2	X2.1	Hazardous Area (X2)	88	24	0	0	112	93%	Very Good
	X2.2		103	6	0	0	109	91%	Very Good
	X2.3		88	27	0	0	115	96%	Very Good
3	X3.1	Falling Objects (X3)	44	57	0	0	101	84%	Very Good
	X3.2		80	30	0	0	110	92%	Very Good
	X3.3		72	36	0	0	108	90%	Very Good
4	X4.1	Emergency Preparedness (X4)	92	21	0	0	113	94%	Very Good
	X4.2		72	36	0	0	108	90%	Very Good
	X4.3		76	33	0	0	109	91%	Very Good
	X4.4		72	36	0	0	108	90%	Very Good
5	X5.1	Work Techniques (X5)	60	45	0	0	105	88%	Very Good
	X5.2		60	45	0	0	105	88%	Very Good
	X5.3		84	33	0	0	117	98%	Very Good
6	X6.1	Moving Vertically and Horizontally to or from the work floor (X6)	64	42	0	0	106	88%	Very good
	X6.2		64	42	0	0	106	88%	Very good
7	X7.1	Working at an angle (X7)	64	42	0	0	106	88%	Very good
	X7.2		68	39	0	0	107	89%	Very good
8	X8.1	Personal Protective Equipment, Fall Protection Devices, and Anchors (X8)	99	7	0	0	106	88%	Very good
	X8.2		76	33	0	0	109	91%	Very good
9	X9.1	Fall prevention devices (X9)	60	45	0	0	105	88%	Very good
	X9.2		68	39	0	0	107	89%	Very good
10	X10.1	Labor (X10)	64	6	0	0	70	58%	Very good
	X10.2		56	27	2	0	85	71%	Good
11	X11.1	Supervision (X11)	68	39	0	0	107	89%	Very good
	X11.2		68	39	0	0	107	89%	Very good
12	X12.1	Sanctions (X12)	52	51	0	0	103	86%	Very good
	X12.2		60	45	0	0	105	88%	Very good
	X12.3		72	36	0	0	108	90%	Very good
Percentage Average								88%	Very good

From the results of the percentage above shows the following statements based on the level of effectiveness of the implementation of the Occupational Safety and Health Management System:with a percentage result of 88%, it can be stated that the level of performance of the Occupational Safety and Health Management System is "Very Good" in the Solo Balapan – Kadipiro Elevated Rail Construction Project

3.3 Classical Assumption Test

3.3.1 Normality Test

The normality test in this research applied the Shapiro-Wilk statistical test because the study sample was less than 50 (Ramdan, 2017) . The normality test outcomes for production data is visible in table V.12 below.

Table 5 table of One Sample Shapiro-Wilk Test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
N30	.085	30	.200*	.954	30	.212
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Thus, the outcome of the study above assumed that with the acquisition of a significant value of 0.212 > 0.05. The residual value of the data we obtain is normally distributed or the data we get consists of well-distributed data (Ramdan, 2017).

3.3.2 Multicollinearity test

An effective regression model is characterized by no intercorrelation among independent variables (Ghozali Imam, 2005).

Table 6 Multicollinearity (VIF) Test results

Coefficients[a]		
	Collinearity Statistics	
Type	Tolerance	VIF
(Constant)		
Management (X1)	.721	1.386
Hazardous Area (X2)	.887	1.128
Falling Objects (X3)	.833	1.200
Emergency Preparedness (X4)	.566	1.766
Working Techniques (X5)	.616	1.624
Hazard Mitigation (X6)	.620	1.613
Work on an Inclined Plane (X7)	.695	1.439
Safety Factors (X8)	.761	1.313
Fall Prevention Device (X9)	.709	1.410

Competency of Cutting Holder (X10)	.873	1.146
Supervision (X11)	.779	1.325
Sanctions (X12)	.907	1.103

From Table above, it can be implied that every variable in this research has a VIF value smaller than 10 and a Tolerance greater than 0.10, so that this indicates that the model does not have symptoms of multicollinearity so that each independent variable has a Linear Data Structure or the data presented is related to other data regularly (straight).

3.3.3 Heteroscedasticity Test

This test is carried out because a good regression model does not allow heteroscedasticity, which is a high variance difference in residuals between variables. In this study using the Glejser Test method, where the outcomes of the significant t-count value (sig) were more than 0.05 ($p > 0.05$).

Table 7 Heteroscedasticity test results using the Glejser Test method

Coefficients[a]			
Type		t	Sig.
1	(Constant)	2.923	.007
	Management (X1)	.894	.380
	Hazardous Area (X2)	-1.774	.089
	Falling Objects (X3)	-2.922	.007
	Emergency Preparedness (X4)	-.479	.636
	Working Techniques (X5)	1.849	.077
	Hazard Mitigation (X6)	.243	.810
	Work on an Inclined Plane (X7)	-.185	.855
	Safety Factors (X8)	.705	.488
	Fall Prevention Device (X9)	.659	.517
	Competency of Cutting Holder (X10)	-1.317	.201
	Sanctios (X12)	-2.278	.062

The outcomes are visible in table 3 clearly showing all This means that in this model there is no heteroscedasticity, in other words there is no variance inequality from one residual observation to another observation or all independent variables contained in this data have the same variance.

3.4 Multiple Linear Regression Analysis

3.4.1 Multiple Linear Regression Analysis

Multiple linear regression analysis refers to a regression model that includes more than one independent variable. This research uses multiple linear regression analysis. With the dependent variable (Y), namely the implementation of OHS in the project, while the independent variable (X) is Indonesian Ministry of Manpower Regulation No.9 of 2016.

Based on the outcomes of SPSS analysis (Table V. 13), the outcomes of the equation are acquired like this:

$$Y = 2.997 - 0.430X_1 - 0.024X_2 + 0.674X_3 - 0.137X_4 - 0.226X_5 + 0.325X_6 + 0.022X_7 - 0.074X_8 + 0.082X_9 - 0.081X_{10} - 0.420X_{11} + 0.997X_{12} + e \quad (6)$$

In the multiple linear regression test, it could be concluded that the variables regarding Indonesian Ministry of Manpower Regulation No.9 of 2016 have 6 variables that have a significant effect, namely Falling Objects (X3), Moving Vertically and Horizontally towards or leaving the work floor (X6), Working on an inclined position (X7), Fall Prevention Devices (X9), Labor (X10), Supervision (11), Sanctions (X12), and have 6 variables that have an insignificant effect, namely General (X1), Hazardous Areas (X2), Emergency Preparedness and Response (X4), Safe Work Techniques (X5), Fall Protective Devices and Angles (X8), Manpower (X10)

3.4.2 Significance Test (T Test)

Data processing results for T test and multiple linear regression with SPSS 16 *tools* explained that the decision making that can be drawn is:

1) If the sig value < 0.05 or the t value is calculated < t table, then H0 is accepted or there is a significant influence between variable X and variable Y
2) If the sig value > 0.05 or the calculated t value >t table, then H0 is rejected or there is no significant influence between variable X and variable Y (Mathematics et al., 2019)

Thus, the test above suggests that the significant values for (X) are X1= 0.002, X2 = 0.042, X3 = 0.000, X4 = 0.043, X5 = 0.040, X6 = 0.008 ,X7= 0.046 ,X8 = 0.027 ,X9 = 0.037, X10 = 0.020 ,X11= 0.001 ,X12 = 0.000 < 0.05. So, Indonesian Ministry of Manpower Regulation No.9 of 2016 has a significant influence on OHS on the project (Y).

3.4.3 Simultaneous Test (Test F)

The initial hypothesis and alternative hypothesis in the F test are:

H0 : Indonesian Ministry of Manpower Regulation No.9 of 2016 simultaneously (together) has a significant influence on OHS on project (Y)

H1: Indonesian Ministry of Manpower Regulation No.9 of 2016 simultaneously (together) does not have a significant influence on OHS on the project (Y).

So from the test results above, the decision making that can be drawn is:

1) If the sig value < 0.05 or the t value is calculated < t table, then there is an influence of variable X on variable Y together
2) If the sig value > 0.05 or the t-value is calculated >t table, then there is an influence of variable X on variable Y together (Mathematics et al., 2019).

Thus, the test of spss suggests that the significant value of residual regression is 0.000 < 0.05 so, Indonesian Ministry of Manpower Regulation No.9 of 2016 has a significant influence together on OHS on the project (Y). And the final result we get is: 3.35. This shows that F tables < F are calculated and the hypothesis used is hypothesis H0 .

3.4.4 Determination Coefficient (R square)

The processed data in spss, shows the numerical value of the the determination coefficient (R square) and correlation coefficient (R). Drawing conclusions from the data provided in the table, it can be deduced that the R value of 0.972 implied a strong relationship between zero and one. R Square explains how much the dependent variable described by the independent variable, from the calculation outcomes obtained an R-Square value of 0.945. This means that all independent variables, namely Indonesian Ministry of Manpower Regulation No.9 of 2016, have a joint influence of 95% on the dependent variable, namely OHS in the project (Y). Meanwhile, the remaining 5% was influenced by other variables that were not examined in this research.

4. CLOSING

Based on research entitled Implementation of Work Safety Management System Using Hazard Identification According to Indonesian Ministry of Manpower Regulation No.9 of 2016 on the Solo Balapan - Kadiporo Elevated Rail Road Construction Project, has some conclusions that, the Occupational Health and Safety Management System (OHS) at the height of the Solo Balapan - Kadipiro Elevated Rail Construction Project, including at the level of assessment of **VERY GOOD** implementation with an achievement level of 88% and by the outcomes of linear regression analysis, Ministry of Labor Regulation No.9 of 2016 has an influence on OHS on the project with 7 variable has a significant influence. Future research can Further research on the effect of implementing the Occupational Safety and Health Management System (OHS) is expected to develop research on OHS with different locations and company levels. Expected to Select Respondents with Good Knowledge of OHS and Have a Valid Systematic Sample

Selection, Can Continue The Development of Research by Looking For 5% of Other Factors that Affect OHS on Projects and It is hoped that companies can implement the Occupational Safety and Health Management System (OHS) even better by implementing suggestions from research related to OHS that has been conducted.

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