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FACTORS INFLUENCING CONTRACTOR PERFORMANCE IN JONGE LAKE ROAD CONSTRUCTION WORK, MALANG CITY

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ABSTRACT

KEYWORDS

Contractor Performance, Contractors, Supervisory Consultants The contractor is very instrumental in the success of a project. Therefore, contractors are required to have maximum performance in carrying out their work. There are various factors that affect the performance of contractors such as Human Resources, Money, Field Management, Communication, Materials and Equipment. This study aims to analyze the relationship between factors that influence contractor performance. This research is quantitative with data collection techniques in the form of interviews and distributing questionnaires. The research population consisted of 78 supervisory consultants for the Danau Jonge road construction project in Malang, with the total sample being the entire population. The research data analysis technique uses the PLS SEM method. Research proves that Human Resource and Money have a positive and not significant effect on Contractor Performance. Field Management has a negative and insignificant effect on Contractor Performance. While Communication, Materials and Equipment have a significant positive effect on Contractor Performance.

INTRODUCTION

Developments in the field of construction are increasingly rapid as evidenced by the many buildings that are not only physically strong but also have aesthetic and aesthetic qualities. In the construction of a building or other construction that has the desired quality and beauty, the contractor has a big role in determining the success of the construction . The success of a project is largely determined by the role of the contractor, if the contractor has good performance then the results of the construction work produced will also have good results. The contractor has a dominant role with the ultimate goal of achieving the project objectives and getting the maximum profit (Azis, 2018) .

The contractor is a person or business entity that accepts work and carries out the work according to the plans, regulations and conditions specified (Ervianto, 2002). The contractor is defined as a contractor or anemer. In general, the contractor is defined as the party responsible for carrying out all or some parts of the construction work. A contractor has the responsibility of providing various materials, equipment, labor, to everything needed in project development issues. Usually, a building contractor is also present to supervise the construction of buildings and their projects.

In the development process there are various series of activities that are mutually sustainable with one another. If one activity is delayed, it will have an impact on other activities. Therefore, the use of appropriate, practical, fast and safe methods is very

helpful in completing work on a construction project so that the time, cost and quality targets as set can be achieved (Onibala et al., 2018).

But in reality, there are still many delays in the implementation of project work. Delays occur due to various kinds of inhibiting factors. According to Julifer in Musafaruddin et al., (2018), the inhibiting factors in the implementation of construction projects come from equipment, design and planning factors, factors beyond the ability of the contractor, material factors, labor factors, condition factors and conditions in the field, implementation factors and relationships work. However, of these various inhibiting factors, it is the contractor who is the key to the success of construction, which in turn determines the success of infrastructure development (KEMENPUPR., 2020).

CV. Meiza Regan Sakti is a contractor which is located at Jl. Vishnu Wardhana No. C-4RT. 01 RW. 01 Ex. Madyopuro Kec. kedungkandang. CV. Meiza Regan Sakti became the contractor responsible for the construction of Jl. Jonge Lake Kel. Madyopuro City of Malang. On CV. Meiza Regan Sakti certainly wants maximum performance. Based on the evaluation conducted by CV. Meiza Regan Sakti still found work activities that were not running optimally, effectively and efficiently. Therefore, it is important for CV. Meiza Regan Sakti to find out the factors that can affect the performance of contractors so that steps can be taken to evaluate and improve the factors that cause decreased performance.

With the crucial role of the contractor in determining the success of a project. Thus, it is necessary to evaluate the factors that affect the performance of contractors. Performance is a work result achieved by a person in carrying out the tasks assigned to him based on skills, experience, sincerity, and time (Ervianto, 200 9:69). Contractor performance is the result of work in quality and quantity achieved by the contractor, in carrying out his duties in accordance with the responsibilities given to him (Tumelap, 2014; Ruci & Wita, 2019)

According to Adriyanto & Nirmalawati, (2019), factors that affect contractor performance are HR, Money, Field Management, Compliance, Provisions, Communication, Delays & Scheduling, Materials, Equipment, Quality, Commitment and environment. Meanwhile, research by Yana et al., (2020) states that the factors that affect contractor performance are 1) Quality, Quantity, and Cost of Labor, Materials, and Auxiliary Equipment in the implementation of Building construction, 2) Competence of the parties involved in building construction projects, both from Contractors, Consultants Supervisors, as well as Planning Consultants, 3) Planning Pre-construction and work preparation carried out by the contractor, both in estimating the amount and costs to be incurred, as well as the formation of work to be carried out in the project, 4) The control and communication system implemented in the project.

By knowing the factors that affect the contractor's performance, the contractor can evaluate and improve to improve the contractor's performance. The researcher will conduct a study entitled Factors Influencing Contractor Performance in the Jalan Danau Jonge Construction Work in Malang City . In addition, for the *Owner, it* can be a means of assistance in monitoring the performance of the selected contractor or in selecting a contractor.

LITERATURE REVIEW

Projects

Projects are activities carried out with certain sequences that are logically predetermined and completed within the allotted time to meet performance standards (Andardi, 2021). In the series of project activities, there is a process that processes project

resources into an activity result in the form of a building. The process that occurs in a series of activities certainly involves related parties, either directly or indirectly. According to Ervianto (2004), Projects have three characteristics that can be viewed in three dimensions, including: 1) Unique in nature, the uniqueness of a construction project is: there is never a series of exactly the same activities (no identical projects, there are projects that are of the same type), projects are temporary, and always involve different groups of workers, 2) Resources are needed, in every project management always requires 5M resources namely Man, Money, Machine, Method, and Material, as well as organization, Every organization has diversity goals that involve a number of individuals with varying skills, different interests, varied personalities, and uncertainties.

Triple Constraints

According to Soeharto (1999) in the process of achieving goals there are limitations that must be met, namely the amount of costs (budget) allocated, schedule, and quality that must be met. These three things are important parameters for project organizers which are often associated as project objectives. The three constraints above are called the three constraints (triple constraint), namely:

1. Budget Costs

The project must be completed at a cost that does not exceed the budget. For projects that involve large amounts of funds and work schedules for years, the budget is not only determined as a total project, but is broken down into its components or per certain period (for example, quarterly) whose amount is adjusted according to needs. Thus, the completion of the project parts must also meet the targets per period.

2. Time

The project must be carried out in accordance with the specified timeframe and end date. If the final result is a new product, then the delivery may not exceed a predetermined limit.

3. Quality

Products or results of project activities must meet the required quality and criteria. So, fulfilling quality requirements means being able to fulfill the intended task.

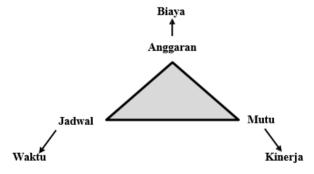


Figure 1
Triple Constraint Relationship

(Source: Soeharto (1995))

These three boundaries are interrelated. This means that if you want to improve the performance of the project that has been agreed upon in the contract, it generally has

to be followed by increasing the quality. This in turn results in rising costs. So over budget. On the other hand, if you want to reduce costs, you usually have to compromise on quality and schedule.

Contractor Project Performance

Performance is a description of the level of achievement of the implementation of an activity, program, policy in realizing the goals, objectives, mission, and vision contained in organizational strategic planning (Mahsun, 2006). Contractor performance is the result of work in quality and quantity achieved by the contractor, in carrying out his duties in accordance with the responsibilities given to him (Tumelap, 2014; Ruci & Wita (2019). According to Hamdi, (2012), *Project Performance* is how the project works by comparing the actual work results with the estimated working methods in the work contract agreed upon by the owner and the implementing contractor Contractor performance is a result of work achieved by the contractor in carrying out the tasks assigned to him based on skill, experience and sincerity as well as time.

Contractors

The contractor is the person or entity that accepts the work and carries out the work according to a predetermined fee based on the plan drawings and regulations and conditions that have been set (Ervianto, 2011). The contractor can be a legal entity or individual company carrying out the work. The rights and obligations of a contractor are to carry out work in accordance with the plan drawings, make implementation drawings approved by the supervisory consultant, provide work safety equipment, make reports on work results, and submit all or part of the work that has been completed (Stefany, 2015). The rights and obligations of a contractor are to carry out the work according to the plan drawings, make implementation drawings that are approved by the supervisory consultant, provide work safety equipment, make work results reports, and submit all or part of the work that has been completed.

Factors Affecting Contractor Performance

There are various factors that affect the performance of contractors Adrivanto & Nirmalawati (2019) research, factors that influence contractor performance are HR, Money, Field Management, Compliance, Provisions, Communication, Delays & Scheduling, Materials, Equipment, Quality, Commitment and environment. Meanwhile, research by Yana et al., (2020) states that the factors that influence contractor performance are 1) Quality, Quantity and Cost of Labor, Materials and Auxiliary Equipment in the implementation of building construction, 2) Competence of the parties involved in building construction projects, both from Contractors, Supervisory Consultants, and Planning Consultants, 3) Pre-Construction Planning and work preparation carried out by contractors, both in estimating the amount and costs to be incurred, as well as the formation of work to be carried out in the project, 4) Control and communication systems that are done in the project. Khasnora (2020) research states that the factors that affect contractor performance are Method and Technology, Field Management, Work Environment, and People. So from the various factors that affect the performance of the contractor, the factors that influence the performance of the contractor used in this study are:

1. Human Resources (HR)

Humans are an important component in the organization that will move and carry out activities to achieve goals. The success of an organization is determined by the quality of the people in it.

2. Money

Money is something that is generally accepted in payment for the purchase of goods and services and for payment of debts

3. Field Management

Field management can be interpreted as the process of organizing or regulating and controlling in a work environment which consists of several elements such as human resources, finance, equipment, etc. as supporting factors for an activity or work practice.

4. Communication

Communication is the process of sending messages or symbols that contain meaning from a source or communicator to a recipient or communicant with a specific purpose.

5. Material

Materials are an important component in determining the cost of a project, during the construction implementation stage the use of materials in the field often results in quite large residual materials due to a lack of proper planning and control, so efforts to minimize material waste are very important to implement.

6. Equipment

Equipment is a tool or can be in the form of a place whose purpose is to support the work. The purpose of using this equipment is to make it easier for workers to do their work, so that the expected results can be easily achieved in a shorter time and more effectively.

Research Models

According to the background and literature review above, a research model can be described, namely:

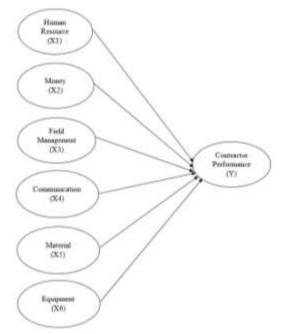


Figure 1 Research Model

RESEARCH METHOD

This research is a quantitative research type where according to Sugiyono (2019) this research method is used to examine certain populations or samples, data collection uses research instruments, data analysis is quantitative/statistical in nature, with the aim of testing established hypotheses. The population in this study were the Supervisory Consultants for the Jalan Jonge road construction project in Malang, 78 people and the total sample was the entire research population, namely 78 people.

In this study, two types of variables will be used, namely (1) Independent Variables, consisting of Human Resources, Money, Field Management, Communication, Materials and Equipment; (2) The dependent variable, namely contractor performance. The following is the operational definition of each variable:

1. HR

Indicators of HR factors refer to Adriyanto & Nirmawati, (2019), including: (a) inadequate work, (b) expertise and skills of foremen and workforce, and (c) experience and competence of project managers.

2. Money

The indicator of the money factor refers to Adriyanto & Nirmawati, (2019), including: (a) inaccurate price estimates and (b) the effects of inflation and escalation.

3. Field Management

Indicators of field management factors refer to Adrivanto & Nirmawati (2019), including: (a) top management received job information about poor communication and conflicts of interest, (b) a lack of personnel with experience in construction management, and (c) a lack of personnel with experience and expertise in management contract.

4. Communication

The indicator of the communication factor refers to Adriyanto & Nirmawati (2019), including: (a) the ability of the project manager to communicate both verbally and in writing and (b) communication between the workforce and the foreman/foreman.

5. Material

Indicators of material factors refer to Adriyanto & Nirmalawati (2019), including: (a) availability of materials according to needs and (b) poor quality control of materials.

6. Equipment

The indicator of the equipment factor refers to Adrivanto & Nirmawati (2019), including: (a) improper use of tools, and (b) insufficient equipment and working capital.

7. Contractor Performance

Performance indicators refer to Fatimah & Purnanda (2021), including: product and service factors.

The data collection method in this study was carried out using survey techniques through questionnaire instruments which were distributed to respondents directly. The data analysis technique used is *Partial Least Square* (PLS). *Partial Least Square* (PLS) is a multivariate statistical technique that is capable of handling many independent, dependent and explanatory variables at once. *Partial Least Square* (PLS) is an analytical method that is often referred to as *soft modeling* because it eliminates regression assumptions. The *Partial Least Square* (*PLS*) analysis consists of two sub-models, namely the *outer model* or measurement model and *the inner model* or structural model.

RESULTS AND DISCUSSION

SEM-PLS Testing

Jonge Road Development Project in Malang City were processed with the help of the SEM-PLS program. The following stages of SEM-PLS analysis are as follows:

Outer Model Evaluation

The Outer Model is evaluated by assessing the value of the validity and reliability of the research model measurements. Here are some tests in the *Outer Model*:

1. Validity Testing

Validity measurement includes convergent validity and discriminant validity. Convergent validity is determined by the parameter *loading factor* (*original sample estimate*) and the AVE value. Discriminant validity is determined based on the results of the *crossloading* of each variable.

a. Convergent Validity Testing

Convergent validity is the correlation between the indicator score and the construct score. The model is said to be valid if it meets *convergent validity* which has a *loading factor value of* > 0.70 and AVE > 0.5 (Abdillah & Jogiyanto, 2009). The following is the *outer loading value* of the research variables:

Table 1 Convergent Validity

Table 1 Convergent Validity						
Indicator	Original Sample (O)	Sample Means (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	
		HR	(X1)			
X1.1	0.904	0.903	0.025	35,986	0.000	
X1.2	0.888	0.886	0.031	28,375	0.000	
X1.3	0.792	0.796	0.067	11,891	0.000	
Money (X2)						
X2.1	0.912	0.913	0.029	31,194	0.000	
X2.2	0.930	0.929	0.022	41,899	0.000	
		Field Manag	gement (X3)			
X3.1	0.849	0.851	0.038	22,627	0.000	
X3.2	0.884	0.885	0.034	26,358	0.000	
X3.3	0.924	0.924	0.016	59,057	0.000	
		Communic	cation (X4)			
X4.1	0.899	0.897	0.031	28,781	0.000	
X4.2	0.914	0.911	0.030	30,180	0.000	
Materials (X5)						
X5.1	0.916	0.913	0.026	34,945	0.000	
X5.2	0.924	0.921	0.025	36,314	0.000	
Equipment (X6)						
X6.1	0.869	0.864	0.044	19,840	0.000	
X6.2	0.908	0.908	0.027	33,242	0.000	
Contractor Performance (Y)						
Y1	0.862	0.860	0.048	17,787	0.000	

Y2	0.886	0.885	0.032	27,364	0.000

(Source: Primary Data Processed, 2022)

All indicators have a value above 0.7 then declared valid as a measuring tool construct funds can be used in research. Convergent validity test can also be seen from the AVE value. Research variables that have values > 0.5 are declared to have convergent validity. The following AVE test results appear in the following table :

Table 2 AVE value

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	AVE value
HR (X1)	0.744
Money (X2)	0.849
Field Management (X3)	0.786
Communication (X4)	0.822
Materials (X5)	0.846
Equipment (X6)	0.789
Contractor Performance (Y)	0.764

(Source: PLS Appendix)

All variables have a value above 0.5 so that they meet the AVE requirements. So it was concluded that the research indicators met the requirements of convergent validity.

b. Discriminant Validity Testing

In discriminant validity, the *Cross* Loading value will be used. An indicator that meets Discriminant Validity if the indicator's *cross loading value* on the variable is the largest compared to other variables. The following is the *crossloading value of the* research:

Table 3 Cross Loading

Variable	(X1)	(X2)	(X3)	(X4)	(X5)	(X6)	(Y)
X1.1	0.904	0.637	0.660	0.667	0.728	0.616	0.658
X1.2	0.888	0.589	0.570	0.663	0.602	0.525	0.667
X1.3	0.792	0.614	0.613	0.562	0.461	0.492	0.544
X2.1	0.729	0.912	0.692	0.600	0.569	0.469	0.549
X2.2	0.584	0.930	0.778	0.614	0.623	0.547	0.613
X3.1	0.637	0.722	0.849	0.608	0.650	0.482	0.519
X3.2	0.609	0.660	0.884	0.652	0.795	0.677	0.562
X3.3	0.644	0.746	0.924	0.711	0.770	0.579	0.652
X4.1	0.598	0.536	0.592	0.899	0.550	0.623	0.656
X4.2	0.728	0.654	0.751	0.914	0.748	0.646	0.705
X5.1	0.574	0.617	0.795	0.648	0.916	0.695	0.668
X5.2	0.709	0.577	0.742	0.676	0.924	0.727	0.700
X6.1	0.484	0.450	0.518	0.516	0.695	0.869	0.614
X6.2	0.629	0.528	0.637	0.713	0.683	0.908	0.725
Y1	0.586	0.519	0.500	0.612	0.565	0.676	0.862
Y2	0.678	0.584	0.640	0.699	0.729	0.649	0.886
(C D:	_	_	1 (000				

(Source: Primary Data Processed (2022)

All indicators that make up the variables have met discriminant validity which can be seen from the construct indicators which are larger than the other variables.

2. Reliability Testing

a. Composite Reliability

Variables that have a *composite reliability value of* > 0.70 can be declared to meet *composite reliability*. The following is the *composite reliability value* of the PLS test results:

Table 4
Composite *Reliability*

composite ite in our in				
	Composite Reliability			
HR (X1)	0.897			
Money (X2)	0.918			
Field Management (X3)	0.917			
Communication (X4)	0.902			
Materials (X5)	0.916			
Equipment (X6)	0.882			
Contractor Performance (Y)	0.866			

(Source: PLS Appendix)

All variables have a *composite reliability value* above 0.70. Then all the variables are declared adequate and can be used in further analysis. Reliability testing can also be seen from the *Cronbach Alpha test*, namely:

b. Cronbach Alpha

Variables that have $Cronbach\ alpha\ values>0.6$ are declared reliable. Following are the results of the $Cronbach\ alpha$ research value:

Table 5
Cronbach Alpha

ıa
Cronbach Alpha
0.827
0.822
0.864
0.783
0.818
0.735
0.691

(Source: PLS Appendix)

All variables have a *Cronbach Alpha value* above 0.6, so all variables have a high level of reliability.

4.1.2 Evaluation of the Inner Model

Evaluation of *the Inner Model* is used to see the direct and indirect effects between variables. Evaluation of *the Inner Model* begins by looking at the R-Square value. For endogenous latent variables in *a structural model* that has an R 2 of 0.75 indicating that the model is "strong", an R 2 of 0.50 indicates that the model is "moderate", an R 2 of $^{0.25}$ indicates a "weak" model (Ghozali , 2016) . The following is the R-Square value of the test results:

Table 6 R-Sauare Value

II Square , unite			
	R Square		
Contractor Performance (Y)	0.724		

(Source: PLS Appendix)

The table above shows the R Square Contract Performance (Y) value of 0.724. So it means that the percentage of the influence of HR (X1), Money (X2), Field Management (X3), Communication (X4), Materials (X5) and Equipment (X6) is 72.4%. While the percentage of 27.6% is influenced by other variables outside of this study. In addition, the R-square value above interprets the Moderet model relationship between the independent and dependent variables.

The Goodness of fit assessment can be identified from the $Q^{2 \text{ value}}$. The value of Q² has the same meaning as R Square. The suitability of the structural model can be seen from Q 2 , as follows:

$$Q^{2} = 1 - [(1 - 0.724)]$$
= 1 - [0.276]
= 0.724

The next evaluation in the *Inner Model* is to look at *the path diagram* which shows the influence of the dependent and independent variables. Path diagrams can show structural equations. The following is a research path diagram:

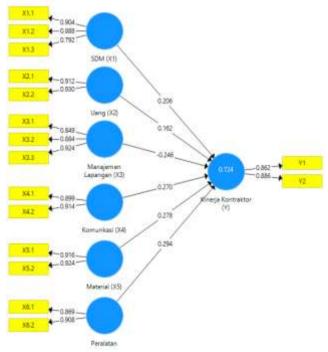


Figure 2 **PLS Path Diagram**

The path diagram above shows the variables Contractor performance is influenced by the variables HR, Money, Field Management, Communication, Materials and Equipment which are described in the structural equation below.

 $Y = 0.206 \times 1 + 0.162 \times 2 - 0.246 \times 3 + 0.270 \times 4 + 0.278 \times 5 + 0.294 \times 6$

Hypothesis Testing

After the data meets the measurement requirements, a hypothesis test can be carried out using the Boostraping method in PLS. The hypothesis test was carried out by comparing the statistical T value of the PLS Boostraping test results with the T-Table of 1.96. The following are the results of Hypothesis Testing in the following table:

Table 7
Results of Hypothesis Testing

Results of Hypothesis Testing					
Variable Relations	T Statistics (O/STDEV)	T Table	Information		
HR (X1) -> Contractor Performance (Y)	1,546		Not significant		
Money (X2) -> Contractor Performance (Y)	1.057		Not significant		
Field Management (X3) -> Contractor Performance (Y)	1.514		Not significant		
Communication (X4) -> Contractor Performance (Y)	2.055	1.96	Significant		
Material (X5) -> Contractor Performance (Y)	2,215		Significant		
Equipment (X6) -> Contractor Performance (Y)	2,427		Significant		
'					

(Source: PLS Appendix)

Based on the results of hypothesis testing, the following results are obtained:

- a. HR no has a significant influence on Contractor Performance , because the statistical T value is 1.546 which means smaller than 1.96.
- b. No money has a significant influence on Contractor Performance, because the statistical T value is 1.057 which means it is smaller than 1.96.
- c. Field Management is not has a significant effect on Contractor Performance, because the statistical T value is 1.51 4 which means it is smaller than 1.96.
- d. Communication has a significant effect on contractor performance, because the statistical T value is 2.055 which means it is greater than 1.96.
- e. Material has a significant influence on Contractor Performance , because the statistical T value is 2.215 which means it is greater than 1.96 .
- f. Equipment has a significant effect on Contractor Performance , because the statistical T value is 2, 427 which means greater than 1.96.

Discussion

Effect of Human Resource on Contractor Performance

Based on the hypothesis testing that has been done, it can be concluded that *Human Resort* has a positive and not significant effect on Contractor Performance, with a T-statistic value of 1.546 which is smaller than 1.96. The positive direction of this relationship shows that the better the Human Resources, the better the contractor's performance. This research is not in line with the research by Dewi et al. (2016) which states that if the human resources are good, the construction service company will also be more advanced and the project can be profitable or get a good profit oriented too .

The Effect of Money on Contractor Performance

Based on the hypothesis testing conducted, it can be concluded that Money has a positive and insignificant effect on contractor performance, with a T-statistic value of 1.057 which is smaller than 1.96. The positive direction of this relationship indicates that the more money available in the project, the contractor's performance will increase. This research is not in line with the research of Christiawan & Koesmargono (2014) which states that financial factors affect the performance of quality construction work.

Effect of Field Management on Contractor Performance

Based on the hypothesis testing conducted, it can be concluded that Field Management has a negative and insignificant effect on Contractor Performance, with a T-statistic value of 1.514 which is less than 1.96. The negative direction indicates that the more field management is done, the contractor's performance will actually decrease. This research is not in line with the research of Christiawan & Koesmargono (2014) which states that financial factors affect the performance of quality construction work. The research results are not in line with the research of Ferdian et al., (2018) which states that field management has a positive effect on contractor performance.

Effect of Communication on Contractor Performance

Based on the hypothesis testing conducted, it can be concluded that communication has a positive and significant effect on contractor performance, with a T-statistic value of 2.055 which is greater than 1.96. The positive direction indicates that the better the communication is, the better the contractor's performance will be. The results of the research are in line with the research of Ferdian et al., (2018) which states that communication has a dominant effect on contractor performance. In addition, research by Hapsari et al., (2018) also shows that communication has a significant positive effect on the performance of construction projects in the city of Surabaya.

Effect of Material on Contractor Performance

Based on the hypothesis testing conducted, it can be concluded that Material has a positive and significant effect on Contractor Performance, with a T-Statistics value of 2.215 which is greater than 1.96. The positive direction indicates that the better the materials used in the construction project will improve the contractor's performance. This research is in line with research (Nurgiyantoro, 2012) Research Maddeppungeng et al., (2017) which states that materials have a significant positive effect on the performance of construction projects in the city of Surabaya. However, it is not in line with the research of Ferdian et al., (2018) which states that material has a weak effect on contractor performance.

Effect of Equipment on Contractor Performance

Based on the hypothesis testing conducted, it can be concluded that equipment has a positive and significant effect on contractor performance, with a T-statistic value of 2.427 which is greater than 1.96. The positive direction indicates that the better the equipment used will improve the performance of the contractor. This research is in line with the research of Astana et al., (2020) which states that equipment greatly influences project implementation. However, it is not in line with the research of Ferdian et al., (2018) which states that equipment has a weak effect on contractor performance.

CONCLUSION

Based on the results of the analysis obtained, it can be taken several conclusion following this:

HR has no significant effect and has a positive direction towards Contractor Performance

Money has no significant effect and has a positive direction towards Contractor Performance.

Field Management has no significant effect and has a negative direction towards Contractor Performance.

Communication has a significant effect and has a positive direction towards Contractor Performance.

Material has a significant effect and has a positive direction relationship to Contractor Performance.

Equipment has a significant effect and has a positive direction towards Contractor Performance.

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