wjert, 2022, Vol. 8, Issue 2, 131-144. Original Article ISSN 2454-695X

World Journal of Engineering Research and Technology

WJERT

www.wjert.org SJIF Impact Factor: 5.924

THE EFFECT OF WORK MOTIVATION FACTORS ON THE PERFORMANCE OF FOREMAN IN CONSTRUCTION PROJECTS IN KUPANG CITY

***Andi Hidayat Rizal, Milania Marchana Dule and Tri M. W. Sir**

Faculty of Science and Engineering, University of Nusa Cendana Kupang.

Article Received on 15/12/2021 **Article Revised on 05/01/2022** **Article Accepted on 25/01/2022**

***Corresponding Author**
Andi Hidayat Rizal
Faculty of Science and Engineering, University of Nusa Cendana Kupang.

ABSTRACT

Human resources are one of the most influential factors in the success of a construction project work. The success of a construction project is measured by 3 (three) main things; cost, time, and quality. Therefore, before working on a construction project, Contractor can make a choice of a Foreman who has good performance. This research aims to find out what factors affect the performance of the Foreman, the factors of work motivation based on the level of need and what the most dominant motivational factor that affect the performance of the Foreman in Kupang City, that using quantitative descriptive analysis methods, multiple linear regression analysis methods, normal distribution tests, t tests, F tests and coefficients of determination with applications statistics, namely SPSS version 25. From the results of the frequency analysis, the performance of the construction foreman in quality is good with a percentage of 70.00%, quantitatively it is good with a percentage of 64.00%, in terms of timeliness is good with a percentage of 67.00%, effectiveness is good with a percentage of 67.00%, in terms of independence it is good with a percentage of 73.00%, and in terms of work commitment it is good with a percentage of 83.00%.

KEYWORDS: *Motivation Factor, Performance, Foreman, Construction.*

1. INTRODUCTION

The world of construction at this time has experienced very rapid development, where there is increasing demand from various parties who want progress in infrastructure in Indonesia.

The demands in the era of globalization have led to competition among construction service providers, so that every construction service provider must try to improve their quality in order to survive and thrive in the construction world. (Surian and Jane, 2018). A construction project is a series of interrelated activities to achieve certain goals within certain time, cost and quality constraints. Influential resources in construction work consist of materials machine, money, implementation methods and mans (Rizky, 2019). In order for a construction project to achieve the expected goals, it is necessary to improve the skills and performance of human resources, in this case the Construction Foreman.

The foreman is the driving force of the workforce and suppliers of skilled workers under him such as builders and construction workers who are involved in construction projects whose duty is to lead and regulate the activities of the builders and workers in the implementation of construction work, as well as overseeing the smooth and orderly execution of the work so that it is in accordance with the regulations. physical, time and quality targets as specified in the plan.

To improve the performance of a foreman, there are many supporting factors, such as discipline, work experience, leadership, health, education and training. One of the factors that influence the achievement of performance is the work motivation factor. According to Winardi (2002), motivation comes from the word motivation which means "to move". Astri (2018) state that motivation is the provision of a driving force that creates enthusiasm for one's work so that they are able to work together, work effectively, and have integrity with all their efforts to achieve goals. Work motivation has an important role in the process of implementing a construction service from the beginning of the project until the completion of the project optimally.

According to Maslow (1954), to be able to motivate someone, it is necessary to understand the level of that person's existence in the hierarchy of needs and focus on satisfying the needs at that level or above. It can be interpreted that the foreman's performance which is supported by work motivation can affect the progress of the work produced and can provide satisfaction to all parties involved in the construction project.

Therefore, before working on a construction project, the contractor can choose a foreman who has good abilities and skills, is responsible for leading the workers and builders in the

hope of being able to compete according to the times, supported by the fulfillment of existing needs.

2. MATERIALS AND METHODS

Construction Project

A project is a set of interrelated activities where there is a starting point and an end point and a specific outcome. Projects usually require a variety of skills from various professions and organizations. The following is the definition of the project according to several experts, including:

1) The definition of a project is as follows: "a combination of resources such as human, material, equipment and capital/costs that are collected in a temporary organizational container to achieve goals and objectives." (Sundari, 2016)
2) The project is a complex activity and has properties that cannot occur repeatedly, has a limited time, specifications that have been determined at the beginning to produce a product. Because of the limitations in carrying out a project, a project organization is needed to manage its resources so that it can carry out synchronous activities so that project goals can be achieved.

Based on the opinion of the experts above, it can be interpreted that a construction project is a series of interrelated activities to achieve certain goals (building or construction) within certain time, cost and quality constraints. Construction projects always require resources, namely man, materials, machine, methods, money, information, and time.

Foreman Performance

The foreman is a person who leads workers and builders. Mulyadi, et al. (2014) states that the foreman is an entrepreneur from a contractor to procure manpower as well as to complete a certain portion of work. He also revealed that the foreman coordinated a lot of the construction workforce. He revealed that 95.63% of the construction workforce are artisans and unskilled workers who are generally under the foreman.

The foreman's performance is a result of the work achieved by the foreman in carrying out the tasks assigned to him based on skills, experience and sincerity and time. Performance is the achievement of organizational goals that can form quantitative and qualitative output, creativity, flexibility, reliability or other things that the organization can desire (Supihati, 2014).

In an effort to improve the performance of the foreman, it must be based on the right vision, mission and strategy, so monitoring the performance of the foreman is very important.

Performance Assessment

According to (Robbins 2006) employee performance has 6 (six) indicators, namely:

1) Quality. Quality of work is measured by employees' perception of quality the work produced and the perfection of tasks on the skills and abilities of employees.
2) Quantity. Represents the resulting quantity expressed in terms such as number of units, number of completed activity cycles.
3) Punctuality. Is the level of activity completed at the beginning of the stated time, from the point of view of coordinating with the output results and maximizing the time available for other activities.
4) Effectiveness. Is the level of use of organizational resources (manpower, money, technology, raw materials) is maximized with the intention of increasing the results of each unit in the use of resources.
5) Independence. Is the level of an employee who will be able to carry out his work duties.
6) Work commitment. Is a level where employees have a work commitment to the agency and employee responsibilities to the office.

Motivation

The term motivation comes from the Latin word namely movere, which means "to move". There are many formulation of motivation, according to Mitchell in Winardi, motivation psikologika represent processes, which led to the emergence and persistence of volunteer activities directed certain (Winardi, 2002).

High motivation in a person is characterized by the emergence of a desire to obtain satisfactory work results in carrying out work, because with work motivation will seek to obtain work performance, have responsibility in carrying out tasks and always look for new innovations. (Ermita 2019).

Work Motivation Factors

According to Maslow (1954), to be able to motivate someone, it is necessary to understand the level of that person's existence in the hierarchy of needs and focus on satisfying the needs at that level or above. In this theory it is argued that in every human being there is a hierarchy of five categories of needs,

1) Physiological Needs

The needs to sustain life, which are included in this need are food, drink, housing, air, and so on. The desire to fulfill this need stimulates a person to behave and work hard.

2) Safety and Security Needs

The need for freedom from threats, namely a sense of security from the threat of accidents and safety in carrying out work. This need leads to two forms, namely the need for mental security, especially mental security at work when doing work and the need for security of property in the workplace at work.

3) Social or Affiliation Needs

Social needs, friends, affiliation, interaction, being loved and loving, as well as being accepted in the association of groups of workers and their community. Basically normal humans do not want to live alone in a remote place, he always needs a group life.

4) Esteem or Status Needs

Esteem or Status Needs for prestige from employees and the community. Ideally, prestige arises because of achievements, but this is not always the case.

The data used in this research are primary data and secondary data. For primary data is taken from the results of questionnaire answers, while secondary data is project data obtained from service providers.

Primary Data

Research questionnaire consists of 6 (six) variables. The dependent variable is the foreman's performance (Y) based on performance indicators such as quantity, quality, timeliness, effectiveness, independence and work commitment. The independent variables are work motivation factors based on the level of need, namely physiological needs (X1), health, security and safety needs (X2), social needs (X3), esteem and identity needs (X4), other needs (X5) with a total of 50 questions.

To determine the performance of the foreman and the factors of work motivation obtained from the results of the questionnaire scoring. The scoring technique used in the questionnaire is the likert scale, which is to provide questions with each having 4 alternative answers and each answer choice has its own value in accordance with the support for the research

problem. The scoring technique used in the questionnaire can be seen in Table 1 and Table 2 below:

Table 1: Performance Scoring Techniques.

Alternative Answers	Score
Not Good	1
Less Good	2
Good	3
Very Good	4

Table 2: Motivational Scoring Techniques.

Alternative Answers	Score
Disagree	1
Less Agree	2
Agree	3
Very Agree	4

The data obtained from the questionnaire is still in the form of ordinal data so that further analysis is carried out to transform the ordinal data to interval data using MSI (*Method Of Successive Interval*) so that further analysis can be done on the assumption test.

The results of interval scale data can be seen in Table 3 and Table 4 below:

Table 3: Interval Data of Performance of The Foreman.

No	Name	Succesive Interval																								
		3	3	3	3	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	3	4
1	Nikson	2.641	2.687	2.641	2.513	2.636	4.030	2.770	3.914	3.471	4.030	2.636	3.250	4.030	4.030	4.079	4.099	3.846	2.636	3.063	3.300	2.269	2.636	2.799	1.000	2.750
2	Antonius	4.172	4.251	4.172	3.987	2.636	4.030	4.318	3.914	3.471	2.549	1.000	2.116	2.549	4.030	4.079	4.099	3.846	1.000	3.063	3.300	3.685	1.000	1.000	2.711	2.750
3	Eusibio	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	2.116	2.549	2.549	2.580	2.595	2.423	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
4	Jor Tabelak	2.641	2.687	2.641	2.513	1.000	2.549	4.318	2.468	2.223	4.030	2.636	3.250	4.030	2.549	4.079	2.595	2.423	2.636	1.765	1.949	2.269	1.000	1.000	1.000	1.000
5	Dhegoz	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	1.000	1.000	2.549	2.580	2.595	2.423	1.000	3.063	3.300	2.269	1.000	1.000	1.000	1.000
6	Hendra	2.641	2.687	2.641	1.000	1.000	4.030	2.770	3.914	1.000	2.549	1.000	1.000	2.549	2.549	2.580	2.595	1.000	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
7	Angky	4.172	4.251	4.172	3.987	2.636	4.030	4.318	2.468	2.223	4.030	2.636	3.250	4.030	4.030	4.079	4.099	2.423	2.636	3.063	3.300	2.269	2.636	1.000	2.711	1.000
8	Eko	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	1.000	2.549	2.549	2.580	2.595	2.423	1.000	3.063	1.949	3.685	1.000	1.000	1.000	1.000
9	Agung	4.172	4.251	4.172	3.987	2.636	2.549	2.770	2.468	2.223	2.549	1.000	2.116	2.549	2.549	2.580	2.595	2.423	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
10	Nelson	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	2.116	2.549	2.549	4.079	2.595	3.846	2.636	1.765	1.949	2.269	2.636	1.000	1.000	1.000
11	Andri	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	1.000	2.549	1.000	2.116	2.549	2.549	2.580	2.595	2.423	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
12	Alwi	1.000	1.000	1.000	2.513	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	2.549	1.000	1.000	1.000	2.423	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
13	Decky	2.641	1.000	2.641	2.513	1.000	2.549	4.318	1.000	1.000	1.000	1.000	1.000	2.549	4.030	4.079	4.099	2.423	1.000	1.000	1.000	1.000	2.636	1.000	2.711	1.000
14	Willyam	2.641	2.687	2.641	2.513	1.000	2.549	2.770	3.914	3.471	4.030	2.636	3.250	4.030	2.549	2.580	4.099	3.846	1.000	3.063	3.300	2.269	1.000	1.000	1.000	1.000
15	Steven	4.172	4.251	4.172	3.987	2.636	4.030	4.318	3.914	3.471	4.030	2.636	3.250	4.030	4.030	4.079	4.099	3.846	2.636	3.063	3.300	3.685	1.000	1.000	2.711	2.750
16	Waksono	2.641	2.687	2.641	2.513	2.636	4.030	2.770	3.914	3.471	4.030	2.636	3.250	4.030	4.030	4.079	4.099	3.846	2.636	3.063	3.300	2.269	2.636	2.799	1.000	2.750
17	nur yanto	4.172	4.251	4.172	3.987	2.636	4.030	4.318	3.914	3.471	2.549	1.000	2.116	2.549	4.030	4.079	4.099	3.846	1.000	3.063	3.300	3.685	2.636	2.799	2.711	2.750
18	samsuli	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	2.116	2.549	2.549	2.580	2.595	2.423	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
19	sutadi	2.641	2.687	2.641	2.513	1.000	2.549	4.318	2.468	2.223	4.030	2.636	3.250	4.030	2.549	4.079	2.595	2.423	2.636	1.765	1.949	2.269	2.636	1.000	1.000	1.000
20	marta	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	1.000	1.000	2.549	2.580	2.595	2.423	1.000	3.063	3.300	2.269	1.000	1.000	1.000	1.000
21	Ahcmad	2.641	2.687	2.641	1.000	1.000	4.030	2.770	3.914	1.000	2.549	1.000	1.000	2.549	2.549	2.580	2.595	1.000	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
22	Adhy	4.172	4.251	4.172	3.987	2.636	2.549	4.318	2.468	3.471	4.030	2.636	3.250	4.030	4.030	4.079	2.595	3.846	2.636	3.063	3.300	3.685	2.636	2.799	2.711	1.000
23	Agus	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	1.000	2.549	2.549	2.580	2.595	2.423	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
24	Fardan	4.172	4.251	4.172	3.987	2.636	2.549	2.770	2.468	2.223	2.549	1.000	2.116	2.549	2.549	2.580	2.595	2.423	1.000	3.063	3.300	3.685	1.000	1.000	1.000	1.000
25	M eji saputra	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	2.223	2.549	1.000	2.116	2.549	2.549	4.079	2.595	3.846	2.636	1.000	1.949	2.269	2.636	1.000	1.000	1.000
26	Ahmad	2.641	2.687	2.641	2.513	1.000	2.549	2.770	2.468	1.000	2.549	1.000	2.116	2.549	2.549	2.580	2.595	2.423	1.000	1.000	1.949	3.685	1.000	1.000	1.000	1.000
27	Bagus	1.000	2.687	1.000	2.513	1.000	1.000	2.770	1.000	2.223	2.549	1.000	1.000	2.549	1.000	2.580	1.000	2.423	1.000	1.765	1.949	2.269	1.000	1.000	1.000	1.000
28	Jetmal	4.172	2.687	2.641	1.000	1.000	2.549	2.770	2.468	1.000	2.549	1.000	2.116	2.549	2.549	2.580	2.595	1.000	1.000	3.063	3.300	2.269	1.000	1.000	1.000	1.000
29	Hendri	2.641	2.687	2.641	2.513	1.000	4.030	4.318	2.468	3.471	4.030	2.636	3.250	4.030	4.030	4.079	2.595	2.423	1.000	3.063	1.000	3.685	1.000	1.000	1.000	1.000
30	Abdullah	2.641	2.687	4.172	3.987	2.636	4.030	4.318	3.914	3.471	4.030	2.636	3.250	4.030	4.030	4.079	4.099	3.846	2.636	3.063	3.300	3.685	2.636	2.799	2.711	2.750

Source : Data Analysis, 2021

Table 4: Interval Data of Work Motivation Factors Based on Level of Need.

No	Name	Succesive Interval																												
		3.00	3.00	3.00	3.00	4.00	X1	4.00	4.00	4.00	4.00	4.00	X2	4.00	3.00	4.00	4.00	4.00	X3	4.00	4.00	4.00	4.00	4.00	X4	4.00	4.00	3.00	4.00	3.00	X5
1	Nikson	2.55	1.00	2.64	2.43	2.64	11.25	4.10	2.60	4.17	3.71	2.64	17.21	4.03	1.00	4.10	3.56	2.80	15.49	2.64	2.64	3.32	4.03	2.64	15.26	2.66	2.75	1.00	2.80	1.00	10.20
2	Antonius	4.03	2.68	4.17	3.85	2.64	17.37	4.10	2.60	4.17	3.71	1.00	15.58	4.03	2.66	4.10	3.56	1.00	15.34	1.00	1.00	2.14	2.55	1.00	7.69	2.66	2.75	2.75	2.80	2.80	13.75
3	Eusibio	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
4	Jor Tabelak	2.55	1.00	2.64	2.43	1.00	9.62	2.59	2.60	2.64	2.34	2.64	12.81	2.55	2.66	2.59	2.26	1.00	11.06	2.64	2.64	3.32	4.03	2.64	15.26	1.00	1.00	1.00	1.00	1.00	5.00
5	Dhegoz	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	1.00	1.00	1.00	5.00	1.00	1.00	1.00	1.00	1.00	5.00
6	Hendra	2.55	1.00	2.64	1.00	1.00	8.19	2.59	1.00	2.64	1.00	1.00	8.24	4.03	1.00	4.10	1.00	1.00	11.13	1.00	1.00	1.00	2.55	1.00	6.55	1.00	1.00	1.00	1.00	1.00	5.00
7	Angky	4.03	2.68	4.17	3.85	2.64	17.37	4.10	2.60	4.17	2.34	2.64	15.84	4.03	2.66	2.59	2.26	1.00	12.55	2.64	2.64	3.32	4.03	2.64	15.26	2.66	1.00	2.75	1.00	2.80	10.20
8	Eko	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	1.00	2.55	1.00	6.55	1.00	1.00	1.00	1.00	1.00	5.00
9	Agung	4.03	2.68	4.17	3.85	2.64	17.37	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
10	Nelson	2.55	1.00	2.64	2.43	1.00	9.62	2.59	2.60	2.64	3.71	2.64	14.18	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	2.14	2.55	1.00	7.69	2.66	1.00	1.00	1.00	1.00	6.66
11	Andri	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	1.00	1.00	8.14	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
12	Alwi	1.00	1.00	1.00	2.43	1.00	6.43	1.00	1.00	1.00	2.34	1.00	6.34	1.00	1.00	1.00	2.26	1.00	6.26	1.00	1.00	1.00	2.55	1.00	6.55	1.00	1.00	1.00	1.00	1.00	5.00
13	Decky	4.03	1.00	2.64	1.00	1.00	9.67	2.59	1.00	2.64	1.00	1.00	8.24	2.55	1.00	2.59	1.00	1.00	8.14	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
14	Willyam	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	4.17	3.71	1.00	12.47	2.55	1.00	4.10	3.56	2.80	14.01	2.64	2.64	3.32	4.03	2.64	15.26	1.00	1.00	1.00	1.00	1.00	5.00
15	Steven	4.03	2.68	4.17	3.85	2.64	17.37	4.10	2.60	4.17	3.71	2.64	17.21	4.03	2.66	4.10	3.56	2.80	17.14	2.64	2.64	3.32	4.03	2.64	15.26	1.00	1.00	2.75	2.80	2.80	10.35
16	Waksono	2.55	1.00	2.64	2.43	2.64	11.25	4.10	2.60	4.17	3.71	2.64	17.21	4.03	1.00	4.10	3.56	2.80	15.49	2.64	2.64	3.32	4.03	2.64	15.26	2.66	2.75	1.00	2.80	1.00	10.20
17	nur yanto	4.03	2.68	4.17	3.85	2.64	17.37	4.10	2.60	4.17	3.71	1.00	15.58	4.03	2.66	4.10	3.56	1.00	15.34	1.00	1.00	2.14	2.55	1.00	7.69	2.66	2.75	2.75	2.80	2.80	13.75
18	samsuli	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
19	sutadi	2.55	1.00	2.64	2.43	1.00	9.62	2.59	2.60	2.64	2.34	2.64	12.81	2.55	2.66	2.59	2.26	1.00	11.06	2.64	2.64	3.32	4.03	2.64	15.26	1.00	1.00	1.00	1.00	1.00	5.00
20	marta	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	1.00	1.00	1.00	5.00	1.00	1.00	1.00	1.00	1.00	5.00
21	Ahcmad	2.55	1.00	2.64	1.00	1.00	8.19	2.59	1.00	2.64	1.00	1.00	8.24	4.03	1.00	4.10	1.00	1.00	11.13	1.00	1.00	1.00	2.55	1.00	6.55	1.00	1.00	1.00	1.00	1.00	5.00
22	Adhy	4.03	2.68	4.17	3.85	2.64	17.37	4.10	2.60	2.64	3.71	2.64	15.68	2.55	2.66	2.59	3.56	1.00	12.36	2.64	2.64	3.32	4.03	2.64	15.26	2.66	2.75	2.75	1.00	2.80	11.95
23	Agus	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	1.00	2.55	1.00	6.55	1.00	1.00	1.00	1.00	1.00	5.00
24	Fardan	4.03	2.68	4.17	3.85	2.64	17.37	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
25	M eji saputra	2.55	1.00	2.64	2.43	1.00	9.62	2.59	2.60	2.64	3.71	2.64	14.18	2.55	1.00	2.59	2.26	1.00	9.41	1.00	1.00	2.14	2.55	1.00	7.69	2.66	1.00	1.00	1.00	1.00	6.66
26	Ahmad	2.55	1.00	2.64	2.43	1.00	9.62	2.59	1.00	2.64	2.34	1.00	9.57	2.55	1.00	2.59	1.00	1.00	8.14	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
27	Bagus	1.00	1.00	1.00	2.43	1.00	6.43	1.00	1.00	1.00	2.34	1.00	6.34	1.00	1.00	1.00	2.26	1.00	6.26	1.00	1.00	1.00	2.55	1.00	6.55	1.00	1.00	1.00	1.00	1.00	5.00
28	Jetmal	4.03	1.00	2.64	1.00	1.00	9.67	2.59	1.00	2.64	1.00	1.00	8.24	2.55	1.00	2.59	1.00	1.00	8.14	1.00	1.00	2.14	2.55	1.00	7.69	1.00	1.00	1.00	1.00	1.00	5.00
29	Hendri	2.55	1.00	2.64	2.43	1.00	9.62	4.10	2.60	2.64	2.34	1.00	12.68	4.03	2.66	2.59	3.56	1.00	13.84	2.64	2.64	3.32	4.03	2.64	15.26	1.00	1.00	1.00	1.00	1.00	5.00
30	Abdullah	4.03	2.68	4.17	3.85	2.64	17.37	4.10	2.60	4.17	3.71	2.64	17.21	4.03	2.66	4.10	3.56	2.80	17.14	2.64	2.64	3.32	4.03	2.64	15.26	2.66	2.75	2.75	1.00	1.00	10.16

Source : Data Analysis, 2021

3. RESULTS AND DISCUSSION

Validity test

The number of respondents in this study was (N) 30 people with a significance of 5% with a value of r table = 0.361 this value will be used as a comparison for the results of r count, if the value of r table > r count the results are valid, on the other hand, if the value of r table < r count the results are invalid, then it is known that the results of the validity test will be shown in Table 5 as follows.

Table 5: Validation Test Results of Performance of The Foreman.

Performance Indicator	Item	Correlation Coefficient	Terms	Conclusion
Quality (Y1)	Y1.1	0.648	0.361	VALID
	Y1.2	0.685	0.361	VALID
	Y1.3	0.800	0.361	VALID
	Y1.4	0.639	0.361	VALID
	Y1.5	0.817	0.361	VALID
Quantity (Y2)	Y2.1	0.736	0.361	VALID
	Y2.2	0.683	0.361	VALID
	Y2.3	0.686	0.361	VALID
	Y2.4	0.795	0.361	VALID
Punctuality (Y3)	Y3.1	0.745	0.361	VALID
	Y3.2	0.672	0.361	VALID
	Y3.3	0.763	0.361	VALID

	Y3.4	0.638	0.361	VALID
Effectiveness (Y4)	Y4.1	0.845	0.361	VALID
	Y4.2	0.743	0.361	VALID
	Y4.3	0.776	0.361	VALID
	Y4.4	0.629	0.361	VALID
	Y4.5	0.573	0.361	VALID
Independence (Y5)	Y5.1	0.506	0.361	VALID
	Y5.2	0.474	0.361	VALID
	Y5.3	0.370	0.361	VALID
Work Commitment (Y6)	Y6.1	0.482	0.361	VALID
	Y6.2	0.632	0.361	VALID
	Y6.3	0.627	0.361	VALID
	Y6.4	0.707	0.361	VALID

Source: SPSS Analytics, 2021.

Table 6: Validation Test Results of Work Motivation Factors.

Work Motivation Factors	Item	Correlation Coefficient	Terms	Conclusion
Physiological Needs (X1)	X1.1	0.584	0.361	VALID
	X1.2	0.675	0.361	VALID
	X1.3	0.725	0.361	VALID
	X1.4	0.671	0.361	VALID
	X1.5	0.817	0.361	VALID
Health, Security, and Safety Needs (X2)	X2.1	0.896	0.361	VALID
	X2.2	0.820	0.361	VALID
	X2.3	0.832	0.361	VALID
	X2.4	0.706	0.361	VALID
	X2.5	0.648	0.361	VALID
Social Needs (X3)	X3.1	0.684	0.361	VALID
	X3.2	0.730	0.361	VALID
	X3.3	0.619	0.361	VALID
	X3.4	0.773	0.361	VALID
	X3.5	0.599	0.361	VALID
Esteem Needs (X4)	X4.1	0.740	0.361	VALID
	X4.2	0.740	0.361	VALID
	X4.3	0.790	0.361	VALID
	X4.4	0.709	0.361	VALID
	X4.5	0.740	0.361	VALID
Other Needs (X5)	X5.1	0.691	0.361	VALID
	X5.2	0.711	0.361	VALID
	X5.3	0.765	0.361	VALID
	X5.4	0.628	0.361	VALID
	X5.5	0.657	0.361	VALID

Source: SPSS Analytics, 2021.

Reliability Test

Reliability test is carried out simultaneously on all statements. The results of the table *output* will provide an overview of the values *statistical* for the 25 items in the questionnaire. In column *Cronbach's Alpha if Item Deleted.* If the value of *Cronbach's alpha* for the 25 item questions is > 0.60, it can be concluded that the 25 questionnaire items are *reliable*. The following are the results of the total statistical item test which can be seen in Table 6 and Table 7 below.

Table 6 *Items Total Statistics* of Performance of The Foreman

Item-Total Statistics				
	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Y1.1	78.6667	82.920	.612	.943
Y1.2	78.7000	82.769	.654	.942
Y1.3	78.6667	81.333	.777	.941
Y1.4	78.7000	82.562	.599	.943
Y1.5	78.5333	82.189	.799	.941
Y2.1	78.6000	81.559	.708	.942
Y2.2	78.5667	82.737	.651	.943
Y2.3	78.6667	81.816	.650	.942
Y2.4	78.8000	78.786	.764	.941
Y3.1	78.6000	81.490	.715	.942
Y3.2	78.5333	83.499	.643	.943
Y3.3	78.8333	78.351	.723	.942
Y3.4	78.6000	82.662	.600	.943
Y4.1	78.6000	80.386	.826	.940
Y4.2	78.4333	81.702	.714	.942
Y4.3	78.6333	81.344	.751	.941
Y4.4	78.6333	82.309	.586	.943
Y4.5	78.5333	84.395	.538	.944
Y5.1	78.2667	82.961	.446	.946
Y5.2	78.3000	83.734	.416	.946
Y5.3	78.4000	85.352	.311	.947
Y6.1	78.5333	85.223	.441	.945
Y6.2	78.7000	84.976	.607	.943
Y6.3	78.6333	84.447	.598	.943
Y6.4	78.6667	84.092	.684	.943

Source: SPSS Analytics, 2021.

Table 7 *Items Total Statistics of* Work Motivation Factors.

Item-Total Statistics				
	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
X1.1	47.9325	193.127	.714	.959
X1.2	49.3261	194.908	.710	.959
X1.3	47.9325	191.394	.790	.958
X1.4	48.2576	194.752	.620	.960
X1.5	49.3268	194.990	.707	.959
X2.1	47.9074	192.801	.714	.959
X2.2	49.2743	194.373	.722	.959
X2.3	47.9833	193.763	.721	.959
X2.4	48.2576	193.358	.678	.959
X2.5	49.3268	194.992	.707	.959
X3.1	47.9324	194.306	.658	.959
X3.2	49.3721	195.190	.705	.959
X3.3	47.9573	196.219	.588	.960
X3.4	48.4507	191.354	.740	.958
X3.5	49.5772	199.936	.565	.960
X4.1	49.3268	194.985	.707	.959
X4.2	49.3268	194.985	.707	.959
X4.3	48.6398	191.175	.757	.958
X4.4	47.9327	194.091	.667	.959
X4.5	49.3268	194.985	.707	.959
X5.1	49.3721	196.027	.665	.959
X5.2	49.5148	196.520	.689	.959
X5.3	49.5221	195.636	.751	.958
X5.4	49.5772	199.222	.603	.960
X5.5	49.5772	198.612	.637	.959

Source: SPSS Analytics, 2021.

Normality Test

According to Sugiyono and Susanto (2015:323), the implementation of the normality test can use the Kolmogorov-Smirnov test, with the applicable criteria, namely if the significance result is > 0.05, which means the residuals are normally distributed.

Table 8: Data Normality Test Results.

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		30
Normal Parameters[a,b]	*Mean*	.0000000
	Std. Deviation	2.40579015
Most Extreme Differences	*Absolute*	.143
	Positive	.095
	Negative	-.143
Test Statistic		.143
Asymp. Sig. (2-tailed)		.118[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Source: SPSS Analytics, 2021.

From the table above, it can be seen that the value of *Asymp.Sig.*(2-*tailed*) is 0.128 (0.118 > 0.05). This indicates that the data is normally distributed.

Frequency Analysis

This analysis can provide a concise and practical description of the respondents. Frequency analysis is an analysis that discusses the translation of the size of the frequency of the results of distributing questionnaires and processed with the help of the program *SPSS V.25*.

The following are the results of the frequency analysis which can be seen in the following table:

Table 9 Recapitulation of Frequency Quality

Quality (Y1)		
Sub-variable	Percentage (%)	Answer
Y1.1	66	Good
Y1.2	70	Good
Y1.3	66	Good
Y1.4	66	Good
Y1.5	67	Very Good
Max	70	Good

Table 10 Recapitulation of Frequency Quantity

Quantity (Y2)		
Sub-variable	Percentage (%)	Answer
Y2.1	60	Good
Y2.2	64	Good
Y2.3	63	Good
Y2.4	50	Good
Max	64	Good

Table 11 Recapitulation of Frequency Punctuality

Punctuality (Y3)		
Sub-variable	Percentage (%)	Answer
Y3.1	60	Good
Y3.2	67	Good
Y3.3	37	Good
Y3.4	60	Good
Max	67	Good

Table 12 Recapitulation of Effectiveness Frequency

Effectiveness (Y4)		
Sub-variable	Percentage (%)	Answer
Y4.1	60	Good
Y4.2	50	Good
Y4.3	60	Good
Y4.4	57	Good
Y4.5	67	Good
Max	67	Good

Table 13 Recapitulation of Independence Frequency

Independence (Y5)		
Sub-variable	Percentage (%)	Answer
Y5.1	73	Very Good
Y5.2	67	Very Good
Y5.3	63	Good
Max	73	Good

Table 14 Recapitulation of Frequency of Work Commitment

Work Commitment (Y6)		
Sub-variable	Percentage (%)	Answer
Y6.1	67	Good
Y6.2	83	Good
Y6.3	77	Good
Y6.4	80	Good
Max	83	Good

The performance of the construction foreman in Kupang City is good quality with a percentage of 70.00%, quantitatively it is good with a percentage of 64.00%, in terms of timeliness is good with a percentage of 67.00%, effectiveness is good with a percentage of 67.00%, independence is good with a percentage of 73.00%, and in terms of work commitment it is good with a percentage of 83.00%.

Multiple Linear Regression Analysis

Multiple linear regression technique was used to determine whether there was a significant effect of two or more independent variables (X1, X2, X3, X4 and X5) on the dependent variable (Y).

The following are the results of multiple linear regression analysis which can be seen in Table 9 below.

Table 15: Results of Multiple Linear Regression Analysis.

Coefficients[a]						
Model		***Unstandardized Coefficients***		***Standardized Coefficients***	***t***	***Sig.***
		B	***Std. Error***	***Beta***		
1	(Constant)	10.085	2.102		4.798	.000
	x1	1.402	.191	.375	7.346	.000
	x2	1.154	.387	.287	2.979	.007
	x3	1.477	.331	.327	4.458	.000
	x4	.461	.211	.132	2.182	.039
	x5	.093	.370	.020	.253	.803
a. *Dependent Variable:* y						

Source: SPSS Analytics, 2021.

From table 15, the following multiple linear equations are obtained:

Y = 10.085 +1.402X1 + 1.154X2 + 1.477X3 + 0.461X4 + 0.093X5

From table 15, the value of t-count, shows

1) Variable of physiological needs (X1)

The value of t-count = 7.346 with sig t = 0.000 while the value of t-table = 2.059 and the value of = 0.05. Because the t-count value is 7.346 > t-table 2.059 and the probability value is 0.000 < 0.05, then HO is rejected and HI is accepted. This means that the physiological needs variable partially has a significant effect on the dependent variable for the foreman's performance.

2) Variable of health, security and safety needs (X2)

The value of t-count = 2,979 with sig t = 0.000 while the value of $t\text{-table}_e$ = 2.059 and the value of = 0.05. Because the t-count value is 2,979 > t-table is 2,059 and the probability value is 0.000 < 0.05, then HO is rejected and HI is accepted. This means that the variable of health, security and safety needs (X2) partially has a significant effect on the dependent variable for the Foreman's Performance.

3) Variable of social needs variable (X3)

The value of t-count = 4.458 with sig t = 0.000 while the value of t-table = 2.059 and the value of = 0.05. Because the t-count value is 4.458 > t-table 2.059 and the probability value is 0.000 < 0.05, then HO is rejected and HI is accepted. This means that social needs (X3) partially has a significant effect on the dependent variable for Foreman's Performance.

4) Variable of esteem needs (X4)

The value of t-count = 2.182 with sig t = 0.039 while the value of t-table = 2.059 and the value of = 0.05. Because the t-count value is 2.182 > t-table 2.059 and the probability value is 0.039 < 0.05, so HO is accepted and HI is rejected. This means that esteem needs (X4) partially has a significant effect on the dependent variable for the Foreman's Performance.

5) Variable of other needs (X5)

The value of t-count = 0.253 with sig t = 0.803 while the value of t-table = 2.059 and the value of = 0.05. The absolute value is taken, then the value of t-count is 0.253 < t-table 2.059 and the probability value is 0.803 > 0.05 so that HO is accepted and HI is rejected. This

means that other needs (X5) partially no have significant effect on the dependent variable for the Foreman's Performance.

From table 15 the value of the coefficient *Beta*, shows:

Based on the value of the coefficient *Beta* of each variable, it can be seen that the independent variable (X1) is the physiological needs factor which has the highest *Beta* coefficient value of 0.375 with the highest t-count of 7.346. So it can be concluded that the physiological needs factor has the most dominant effect on the Foreman's Performance.

4. CONCLUSION

From the results of the discussion that has been carried out above, it could be concluded as follows:

1) The construction of performance of the foreman in terms of quality is good with a percentage of 70.00%, quantitatively it is good with a percentage of 64.00%, in terms of timeliness is good with a percentage of 67.00%, effectiveness is good with a percentage of 67.00%, independently it is good with a percentage of 73.00%, and in terms of work commitment it is good with a percentage of 83.00%. So that the performance of the Construction Foreman in Kupang City is good with an average percentage of 70.67%.
2) The work motivation factors that have a significant effect on the performance of the foreman are physiological needs with a t-count value of 7.346, health, security and safety needs with a t-count value of 2.979, social needs with a t-count value of 4.458, esteem needs with a t-count value of 2.182 where the t-count value is greater than the t-table value, which is 2.059, while other needs factors have no significant effect on performace of the foreman with a t-count value of 0.253 which is smaller than the t-table value of 2.059.
3) Factors that have a dominant effect on the performance of the construction foreman are physiological needs, including salary that is paid on time, income set aside for the family, additional salary/bonus for good performance, the number of projects being supervised and the amount of work experience, where the value of the coefficient *Beta* or the most predictable value of the factor the highest of other factors that is equal to 0.375 and the highest value of t-count is 7.346.

REFERENCES

1. Aridho, Khairul. 2019. *The Foreman And His Duties. Papers About the Foreman and His Flowers*. Kuantan Singingi Islamic University, Riau.

2. Aryanto, Dodi, Mas Suryanto HS. 2013. *Assessment of Knowledge Qualifications of Construction Foreman Based on SKKNI on Building Projects in the Surabaya Region*. Journal of Building Engineering Education Studies. Volume 3 Number 1 2013. Building Engineering, Faculty of Engineering, State University of Surabaya.
3. Astri, Nia. 2018. *Analysis of Work Motivation Factors of Workers on Construction Projects in Medan City*. Undergraduate Thesis. University of Northern Sumatra.
4. Ermita. 2019. *The Contribution of Principal's Leadership Style and Work Motivation to Teacher Performance at State High Schools (SMAN) Koto Tangah District, Padang City*. HIJRI, Journal of Islamic and Educational Management, 8(1): 107–23.
5. Maslow, Abraham H., 1954. *Motivation and Personality*. New York: Harper and Bros.
6. Mulyadi, Lalu, Edi Hargono D. Putranto, and Moh. Nurul Huda. 2014. *Evaluation of the Effect of Foreman's Performance on the Quality of Building Construction Work in Malang Regency*. Project Management Info Journal. ITN Malang.
7. Rizky F, Muhammad. 2019. *Cost Analysis Using the Time Cost Trade Off Method on the Pakuwon Indah Phase 4 Anderson Surabaya Supermall Construction Project*. Essay. 17 August 1945 University.
8. Robbins, Stephen P. 2006. *Organizational Behavior*. tenth edition. Jakarta: PT Index Gramedia Group.
9. Sugiyono, and Susanto, A. 2015. *Easy Ways to Learn SPSS & Lisrel*. Bandung: Alphabeta.
10. Sundari, Maya. 2016. *Analysis of Time and Cost Calculations in the Construction of Grand Ville Bayung Indah Housing at PT Silampari Palembang*. Essay. Sriwijaya State Polytechnic.
11. Supihati, S. 2014. *Analysis of Factors Affecting Employee Performance at Sari Jati Company in Sragen*. Volume 12 Number 1 February-July 2014. Paradigm Journal. STIE AAS Surakarta.
12. Surian, Angelina, Jane Sekarsari. 2018. *Analysis of External Factors Affecting Quality Performance in the Implementation of Construction in Tall Buildings*. Volume 1 Number 1 August 2018. Journal of Civil Engineering Partners. Tarumanegara University.
13. Winardi. (2002). *Motivation and Motivating in Management*. Jakarta: PT Raja Grafindo Persada.