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Consultant Obstacles in Implementing Construction Work Supervision in Tojo Una-Una District

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Abstract:- Construction work in Tojo Una-Una Regency often experiences delays and irregularities in construction, therefore it is hoped that the role of the supervisory consultant can be a reference for all parties involved in the implementation so that the construction work process can be carried out well. The purpose of this research is what factors influence consultant obstacles in implementing work supervision, what indicators most influence consultant obstacles in implementing construction work supervision, and what alternatives can be used to resolve consultant obstacles in implementing construction work supervision in Tojo Una-Una Regency . Respondents in this study were 60 respondents. Data analysis uses Factor Analysis. The factor with the highest influence on consultant barriers in carrying out supervision of construction work is the quality of materials and construction equipment.

Keywords:- *Contruction, Delay, Consultans, Supervision, Quality.*

I. INTRODUCTION

The performance of supervisory consultants on work projects in Tojo Una-Una Regency, namely the management ability to supervise the implementation of activities, quality control of work in terms of quality and quantity, volume and cost control, time control, coordination, preparation of implementation meeting materials, mastery/understanding of tasks and obligations stated in the TOR, accuracy, speed and completeness in submitting reports, work attendance. This investigate points to analyze the variables that impact the execution of supervisory experts on work ventures in Tojo Una-Una Rule, analyze the variables that most overwhelmingly impact the execution of supervisory specialists on work ventures in Tojo Una-Una Rule and decide procedures that must be executed to make strides execution supervisory expert on work ventures in Tojo Una-Una Rule.

The utilize of venture supervision specialists in Tojo Una-Una Rule is exceptionally fundamental in overseeing venture administration and is entrusted with observing, controlling and being included within the extend handle. This team functions as a consultant for project implementation in the field, where their role starts from the planning stage to the construction stage. However, this is a reality, there are still often delays and deviations in construction quality at the project implementation stage, not only caused by natural factors, but also caused by several things, including coordination, communication, administration, and empowerment of personnel.[1]

The purpose of this research is what factors influence consultant obstacles in implementing work supervision, what indicators most influence consultant obstacles in implementing construction work supervision, and what alternatives can be used to resolve consultant obstacles in implementing construction work supervision. in Tojo Una-Una Regency.

II. LITERATURE REVIEW

A. Construction Projects

Development venture exercises can for the most part be deciphered as transitory exercises that final for a restricted period of time, with the assignment of certain assets to deliver items whose quality criteria have been clearly outlined. [2] In the current development, construction projects are becoming increasingly complex due to new standards, advanced technology, innovative materials, competitive prices, and the desire of project owners to make additions or changes to the scope of work.

A construction project is a series of activities that are only carried out once and are generally short term.[3] In this arrangement of exercises, there's a handle of preparing extend assets into an activity result within the frame of a building. The method that happens in this arrangement of exercises certainly includes related parties, both straightforwardly and in a roundabout way.

B. Project Management

Project management is the management of a project which includes the process of scoping, planning, providing staff, organizing and controlling a project.[4] Successful project management means having achieved project objectives, namely: on time and budget, obtaining the desired performance or technology, and using resources effectively and efficiently. Concurring to Evil spirit Brado, extend administration is the application of information, aptitudes, instruments and methods to venture exercises so that the necessities and needs of the venture are met. The forms of venture administration can be assembled into five bunches, to be specific: starting handle , arranging prepare , executing handle, controlling handle , and closing handle.[5]

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C. Supervising Consultants

A supervisory consultant is a company or legal entity appointed by the owner to carry out supervision of work in the field, during project implementation activities.[6] The aim is that the work implementation does not deviate from the work drawings that have been determined. The aim of supervising the implementation of construction work is to ensure the orderly implementation and results of construction work, both physical and non-physical, including aspects of construction planning, procurement, implementation management and contract control.[7]

III. RESEARCH METHODS

The investigate strategy is one of a arrangement of inquire about carried out, which is able depict the inquire about strategies or strategies that will be utilized to compile the inquire about.

A. Types of Research

This inquire about may be a graphic and verification research carried out through information collection within the field, in arrange to get information to decide the relationship between the subordinate variable and the autonomous variable.[8] Next, hypothesis testing is carried out. In this research, causal relationship research is used, namely a research unit that looks for the influence and relationship between one variable and another variable.

The method used in this research is a quantitative approach carried out in four stages, namely literature study, data collection through surveys, data analysis and conclusions, data collection through questionnaires.[9] The survey questionnaire was designed based on factors that provide obstacles for consultants in carrying out supervision of construction work in Tojo Una-Una Regency.

B. Location and Time of Research

This research was conducted on supervisory consultants who have worked or are currently working on road construction projects in Tojo Una-Una Regency. This research will be carried out within six months. This is necessary to sharpen the analysis of the problem being researched theoretically so that the researcher can use enough time to complete the research as well as the writing process.[10]

C. Data Collection Techniques

Data collection techniques in this research use 2 data management methods, namely:

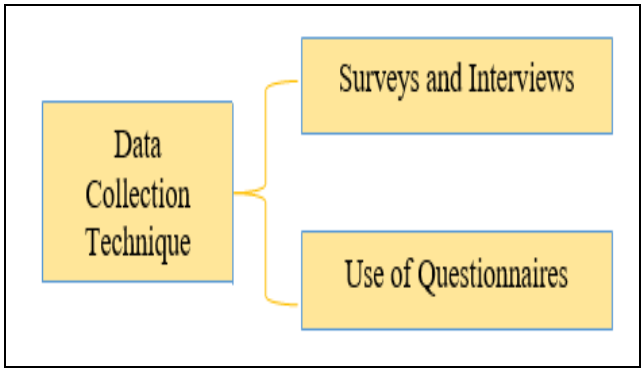

Fig 1: Data Collection Techniques

D. Data Management Techniques

After all the information has been collected, a quantitative information administration strategy is at that point carried out, specifically the comes about of the study within the shape of surveys and interviews from specialists and respondents are handled agreeing to the strategy utilized .[11] The information administration strategy utilized in this inquire about is inactive investigation utilizing IBM SPSS (Measurable Bundle For Social Sciences) for recurrence and graphic investigation.

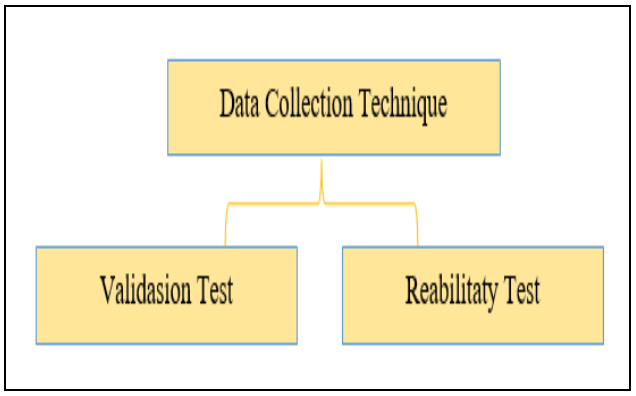

Fig 2: Data Management Techniques

The respondents in this research were companies providing road construction services in Palu City. A Likert Scale approach was used using 5 categories, this can be seen in the following table:

Table 1. Questionnaire Answer Criteria

No	Criteria Evaluation	Likert Scale
1	Very Often (SS)	5
2	Often (S)	4
3	Rare (J)	3
4	Very Rare (SJ)	2
5	Never (TP)	1

E. Data Analysis

Deep data analysis study This use technique analysis statistics quantitative with using *Statistical Product And Service Solution* (SPSS) software, namely analysis factor.[12]

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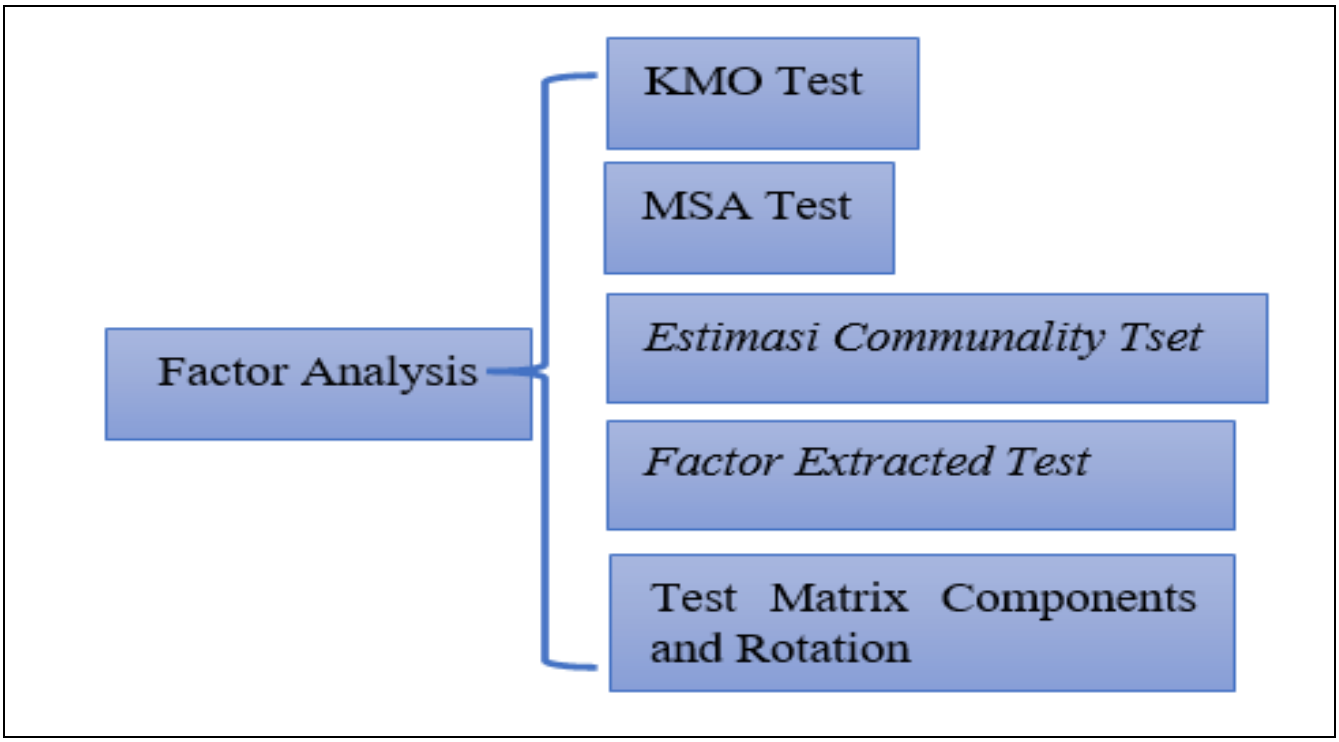

Fig 3: Factor Analysis

IV. RESULTS AND DISCUSSION

A. *Characteristics of Respondents Based on Time Factors*

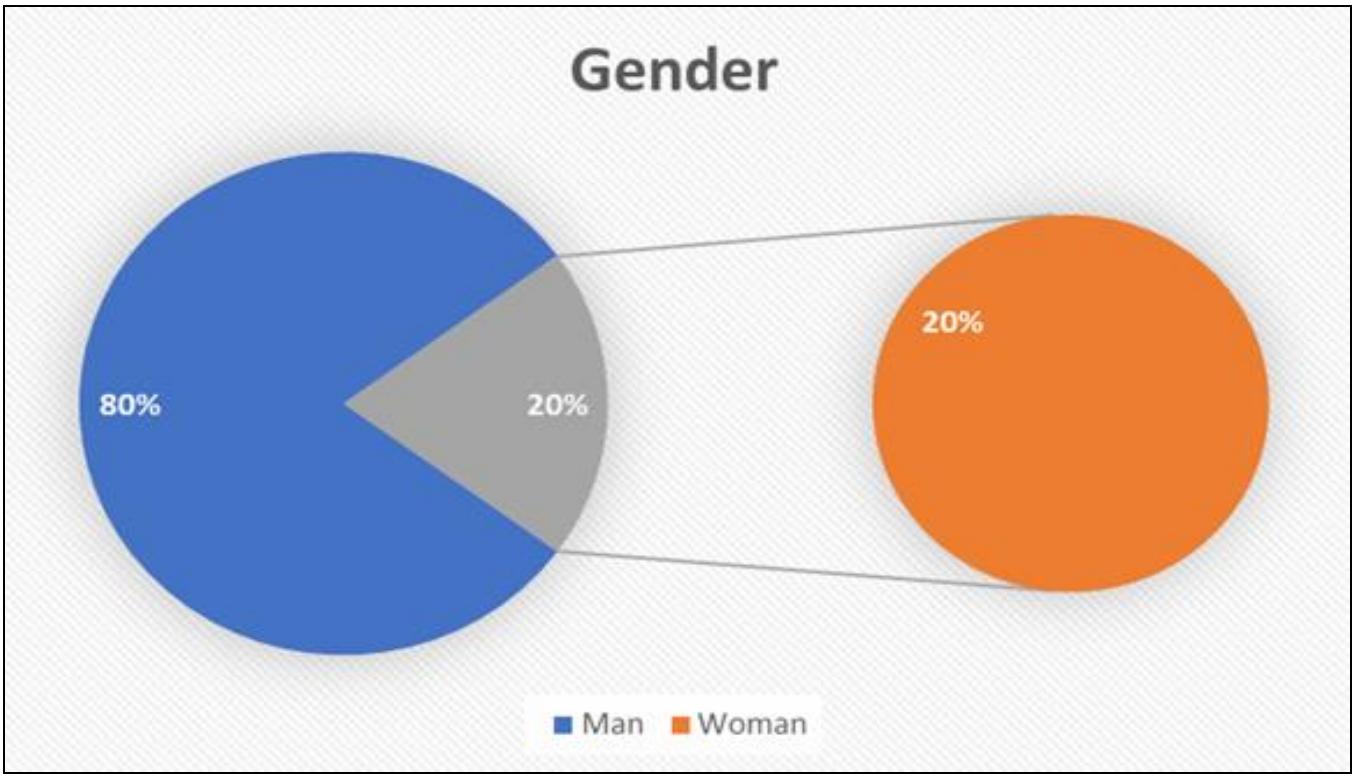

Fig 4: Characteristics of Respondents Based on Gender

From this figure, it shows that the majority of respondents reviewed based on the gender factor were men with a percentage of 80%, and 20% women. Of course, this data shows that the majority of respondents are men who work as consultants.

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B. Characteristics of Respondents Based on Age

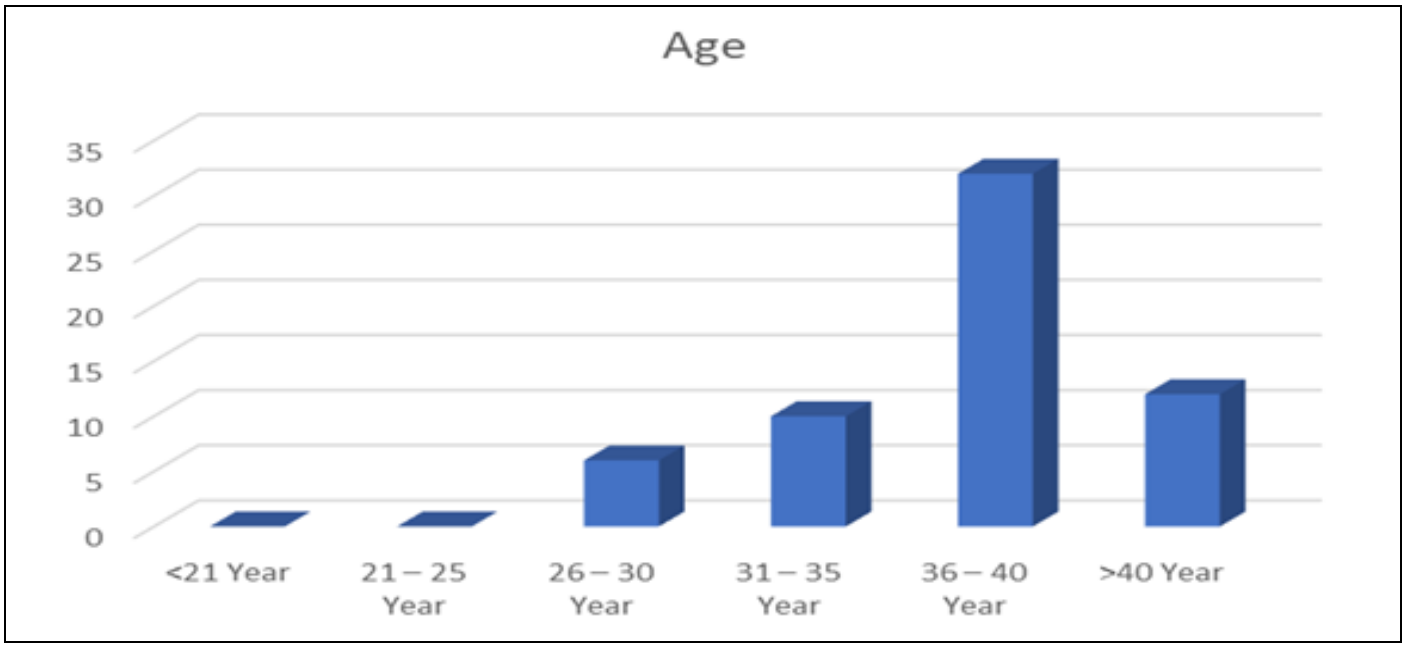

Fig 5: Characteristics of Respondents Based on Age

From this figure, it shows that the majority of respondents reviewed based on age are 36-40 years with a percentage of 53%, then followed by respondents over 40 years of age with a percentage of 20%, age is 31-35 years with a percentage of 17 %, and age is 26-30 years with a percentage of 10%.

C. Validation Test

To test whether a survey is substantial for each of these factors, it is vital to carry out a legitimacy test. The relationship procedure utilized to test the legitimacy of explanation things in this investigate is Bevariate Pearson Relationship. [13] Typically done by correlating each marker thing score with the whole variable score on the survey. In the event that r check > r table , at that point the instrument is announced valid, and if r number < r table at that point the instrument is announced invalid. You'll be able too utilize a significance esteem (2-tailed) < α = 0.05. In this legitimacy test, analysts tried the comes about of 50 respondents' answers, employing a certainty level of 95% or level of centrality (α) = 0, 05, at that point the r table is 0.250

From the comes about of the legitimacy test calculations, it can be seen that r check > r table (0.250) all markers within the survey are announced substantial, so that the information on each pointer can be analyzed encourage.

D. Reliability Test Results

Table 2: Reliability Test Results

Variable	*Cronbach's Alpha*	Required Cronbach *'s Alpha*	Note.
Time Factor (X1)	0.601		Reliable
Job Administration Factors (X2)	0.798		Reliable
Job Administration Factors (X3)	0.670	> 0.60	Reliable
Material Factor (X4)	0.837		Reliable
Labor Factor (X5)	0.846		Reliable
Fund Factor (X6)	0.787		Reliable

From the comes about of the unwavering quality test over, it is known that the Cronbach's Alpha esteem for each variable is more prominent than the specified Cronbach's Alpha esteem, specifically 0.60. These results prove that all explanations within the survey are announced solid, so it can be said that the survey has reliable comes about if measurements are carried out at distinctive times and completely different models or plans.

E. Factor Analysis

The stages of the calculate investigation prepare are selecting suitable markers for calculate investigation by carrying out the KMO and Bartlett's Test, MSA Test, at that point deciding the number of variables by extricating markers and turning components and at last naming the components.

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➢ *Calculation of Kaiser Meyer Olkin (KMO) and Bartlett's Test Before Issuing*

KMO or degree of inspecting ampleness is an list comparing the greatness of the watched relationship coefficient to the greatness of the halfway relationship coefficient. Where in case the whole of the squares of the halfway relationship coefficients between factors is littler than the whole of the squares of the relationship coefficients, at that point the KMO estimate will be near to 1. A little KMO esteem demonstrates that the relationship between factors cannot be clarified by other factors so that the utilize of figure investigation isn't exceptionally great.

Table 3: KMO and *Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0.783**
Bartlett's Test of Sphericity	922,726	Approx. Chi-Square
	253	df
	0.000	Sig.

Based on the table, it can be seen that the KMO esteem created within the starting investigation was 0.783 > 0.5 and Bartlett's Test appeared an Approx Chi-Squere figure of 922.726 with a Degree of Opportunity (df) esteem of 253 and a importance esteem of 0.000, which is littler than 0.05. Hence the information in this inquire about is considered attainable, and data analysis can be kept on the following organize.

➢ *Measure of Sampling Adequacy (MSA) Before Issuance*

Table 4: Measure of Sampling Adequacy (MSA) Before Issued

	MSA value	**Criteria**	**Information**
X1.1	,536	> 0.5	MSA Eligible
X1.2	,424	> 0.5	Not MSA Eligible
X1.3	,167	> 0.5	Not MSA Eligible
X1.4	,554	> 0.5	MSA Eligible
X2.1	,730	> 0.5	MSA Eligible
X2.2	,626	> 0.5	MSA Eligible
X2.3	,623	> 0.5	MSA Eligible
X2.4	,786	> 0.5	MSA Eligible
X2.5	,591	> 0.5	MSA Eligible
X3.1	,650	> 0.5	MSA Eligible
X3.2	,794	> 0.5	MSA Eligible
X3.3	,458	> 0.5	Not MSA Eligible
X3.4	,410	> 0.5	Not MSA Eligible
X3.5	,678	> 0.5	MSA Eligible
X4.1	,579	> 0.5	MSA Eligible
X4.2	,570	> 0.5	MSA Eligible
X4.3	,896	> 0.5	MSA Eligible
X4.4	,508	> 0.5	MSA Eligible
X4.5	,763	> 0.5	MSA Eligible
X5.1	,624	> 0.5	MSA Eligible
X5.2	,829	> 0.5	MSA Eligible
X5.3	,527	> 0.5	MSA Eligible
X5.4	,804	> 0.5	MSA Eligible
X5.5	,818	> 0.5	MSA Eligible
X6.1	,490	> 0.5	Not MSA Eligible
X6.2	,598	> 0.5	MSA Eligible
X6.3	,754	> 0.5	MSA Eligible
X6.4	,589	> 0.5	MSA Eligible

From the table above, there are 5 statements that have an MSA value of less than 0.5 (in bold). Thus, to proceed to the next stage, the researcher removed the sub factors X *1* .2 , X_{1}.3, X_{3}.2 , X_{3}.4.

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➢ *Measure of Sampling Adequacy (MSA) after Issue*

Table 5: Measure of Sampling Adequacy (MSA) After Issued

	MSA Value	Criteria	Information
X1.1	,511	> 0.50	MSA Eligible
X1.4	,681	> 0.50	MSA Eligible
X2.1	,847	> 0.50	MSA Eligible
X2.2	,819	> 0.50	MSA Eligible
X2.3	,813	> 0.50	MSA Eligible
X2.4	,787	> 0.50	MSA Eligible
X2.5	,654	> 0.50	MSA Eligible
X3.1	,843	> 0.50	MSA Eligible
X3.3	,743	> 0.50	MSA Eligible
X3.5	,824	> 0.50	MSA Eligible
X4.1	,650	> 0.50	MSA Eligible
X4.2	,790	> 0.50	MSA Eligible
X4.3	,865	> 0.50	MSA Eligible
X4.4	,817	> 0.50	MSA Eligible
X4.5	,732	> 0.50	MSA Eligible
X5.1	,818	> 0.50	MSA Eligible
X5.2	,791	> 0.50	MSA Eligible
X5.3	,839	> 0.50	MSA Eligible
X5.4	,897	> 0.50	MSA Eligible
X5.5	,886	> 0.50	MSA Eligible
X6.2	,802	> 0.50	MSA Eligible
X6.3	,719	> 0.50	MSA Eligible
X6.4	,701	> 0.50	MSA Eligible

After rehashing the MSA examination, no sub-factors were found that were underneath standard or did not meet the necessities, meaning that the 17 sub-factors over had MSA values. 0.5 so that information from the 23 sub-factors can be proceeded in assist examination.

➢ *Factor Loading*

Stacking is the greatness of the relationship between the explanation and the components or components shaped. From here, data can be gotten that the biggest relationship esteem for each figure (component) demonstrates that the sub-factor is included in that calculate. The calculate esteem taken is the calculate esteem with the most elevated esteem. So, based on the comes about of the examination, the division of calculate bunches is as takes after:

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Table 6: Factor Loading

	Component				
	1	2	3	4	5
X1.1	-,062	,107	,167	,112	,764
X1.4	,355	,622	,124	,091	,167
X2.1	,295	,470	,237	-,080	,534
X2.2	,169	,696	,140	,092	,404
X2.3	,482	,555	,175	,140	,076
X2.4	-,185	,610	,408	,037	,423
X2.5	,156	,598	-,143	,285	,202
X3.1	,134	,770	,071	,146	,024
X3.3	,050	,178	,750	,325	,180
X3.5	,731	,066	,294	,151	,205
X4.1	,638	,200	,234	,053	-,184
X4.2	,891	,225	,181	,117	,040
X4.3	,328	,099	,027	,689	,413
X4.4	,823	,119	-,060	,211	,092
X4.5	,652	,281	-,208	,269	,144
X5.1	,153	,617	,283	,511	,029
X5.2	,405	,459	,388	,400	-,086
X5.3	,445	,061	,764	,177	,138
X5.4	,531	,266	,528	,162	,098
X5.5	,670	,065	,432	-,013	,367
X6.2	,155	,334	,306	,613	,288
X6.3	,281	,289	-,015	,185	,667
X6.4	,155	,189	,257	,808	-,058

Factor Analysis -Rotates Componet Matrix (Rotated Component Matrix, Extraction Methode: Principal Component Analysis, Rotation Metthod: Varimax with Kaiser Normalization.

Based on the characteristics of the variables that shape 5 unused components or variables, the creator will donate names to the 5 unused components. making this calculate a calculate that has an impact on the execution of development laborers on ventures within the Tojo Una-Una locale region.

F. Alternatives implemented in resolving consultant obstacles in implementing construction work supervision in Tojo Una-Una Regency

- Evaluate, coordinate and control the construction activity program prepared by the Contractor which consists of a program for achieving construction targets, a program for the provision and use of materials, a program for the provision and use of information, a program for the provision and use of funds. For example, the Contractor submits materials for several products in accordance with the provisions in the RKS to the Field Supervision Consultant, Work Inspection Team and Activity Executor.

- Provide necessary instructions and instructions to the Contractor in carrying out the work so that it actually takes place in accordance with the provisions of the contract. For example, the Assignor/Activity Executor and the Field Supervision Consultant have the right to issue instructions for the Contractor to dismantle any work that has been closed for inspection or arrange for testing of materials or items both that have been and have not been included in the work or that have been carried out. Costs for work and so on are the contractor's responsibility to be completed in accordance with the contract documents. In addition, the Assignor or Activity Executor and Field Supervision Consultant have the right to issue instructions to remove from the work site any works, materials or items that do not comply with the contract documents.

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- Carry out inspections and inspections of all work areas and all agencies that support the implementation of work.
- Carrying out checks on construction materials required to obtain assurance that the work has been carried out in accordance with specifications. For example, discussion: in this case, the Field Supervision Consultant must check that building materials/local/local labor meet technical requirements, in accordance with existing regulations (RKS) and are recommended to be used by obtaining written permission from the Supervising Consultant, Work Inspection Team (TPP) and Activity Executor.
- Check the Contractor's work plan in relation to the equipment used, locations of construction material sources and ensure that the nature and contract of the material truly meets the requirements in the specifications. For example, the Contractor guarantees that all building materials and equipment provided according to the contract documents are new and all work results are of good quality, free from defects. All work that does not comply with this standard can be considered defective (damaged).

V. CONCLUSION

Based on the research results which have been discussed systematically, there are five main factors that influence consultant obstacles in carrying out supervision of construction work in Tojo Una-Una Regency, these five factors are; 1) Material Quality Factors, Labor and Construction Equipment, 2) Coordination Factors of Project Owners and Consultants, 3) Number of Labor Factors, 4) Capital Factors and 5) Administrative Factors. The magnitude of the influence produced by these five factors on the implementation of construction work supervision is 69.175%, while the remaining 30.825% comes from other factors outside of the indicators used in this research. The factor with the highest influence on consultant barriers in carrying out supervision of construction work is the quality factor of construction materials and equipment which reached 41.07%. Indicators that influence consultant obstacles in carrying out supervision of construction work in Tojo Una-Una Regency are delays in sending materials to the location, material theft occurs, poor quality of labor, equipment used is outdated so it often breaks down, increases in material prices. on the market, unavailability of materials on the market, and the quality of the equipment used is not suitable. For alternatives in resolving the Consultant's obstacles in the Implementation of Supervision of Construction Work in Tojo Una-Una Regency, namely Evaluating, coordinating and controlling the construction activity program prepared by the Contractor, Providing necessary instructions and instructions to the Contractor in carrying out the work, Carrying out inspections and examinations of all work areas and all agencies that support the implementation of the work, Carry out checks on the construction materials needed to obtain a guarantee that the work has been carried out in accordance with the specifications, Check the Contractor's work plan in relation to the equipment used, locations of sources of construction materials and guarantee that the properties and contracts of the material truly meet the requirements in the specifications.

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