CIVED Journal of Civil Engineering and Vocational Education

EISSN: 2622-6774
Vol 11 No.1 March 2024
http://cived.ppj.unp.ac.id/index.php/CIVED

Evaluation of the Competence of Expert Supervisory Consultants in the Implementation of Construction Projects

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Received 14th Jan 2024; Revision 28th Jan 2024; Accepted 26th Feb 2024

ABSTRAK

The success in the implementation of construction projects is determined by the quality of the people involved in handling them, especially those who play an important role in the process of implementing construction projects such as supervisory consultants, supervisory consultants must meet the necessary criteria. In addition, the competence of supervisory consultants is very important so that the implementation of construction projects can produce good performance. Competence of supervisory consultants can improve performance in project implementation. supervisory consultants who carry out strategic supervision such as choosing the necessary implementation methods, as well as providing the best solution if there are obstacles or obstacles in the implementation of construction projects. The formulation of the problem in this study is to find out how the classification of the competence of supervisory consultants on construction projects and find out what are the competency factors possessed by supervisory consultants on the implementation of construction projects. The method of data collection carried out is by means of literature studies and surveys on the required sources of information in the form of interviews and research instruments, namely questionnaires in the form of multiple choice questions consisting of 100 items for each expert. Data analysis was carried out with statistics using the help of the Microsoft excel program and the SPSS Version 23 program.

Keywords: *Construction Project; Supervisory Consultant; Supervisory Consultant Expert; Competency; Project Implementation Performance.*

INTRODUCTION

Projects that have good performance are partly due to good supervision. Good supervision is an effort so that a job is carried out as planned and with the best possible results. In this control there are efforts to supervise, direct, coordinate the implementation of work so that quality, quantity and time are achieved [1]. To achieve optimal work results, construction projects need careful planning and management in order to be able to realize project activities effectively and efficiently in terms of cost, quality, time. Accuracy in the quality of work, method of implementation, time allocation is an obligation for construction companies to realize projects [2].

In addition, the success of the implementation of construction projects will be largely determined by the quality of the people who handle it, especially those who play an important role such as supervisory consultants, so that the selection of supervisory consultants who will occupy these positions must meet the factors of competence or expertise in accordance with

the needs at each stage of the construction project [3].

The competence of supervisory consultants as one of the important factors to achieve successful project completion that has an influence on the results of construction project work in accordance with the plan. In the implementation of construction projects, there are still consulting service problems that can cause time overruns, cost overruns and quality failures that affect project performance that have been identified by many countries including Indonesia. In previous research in Nigeria, five factors were obtained that affect the performance of construction projects, namely the availability of experienced and competent personnel, quality equipment and materials in the project, conformity to specifications, project construction planning time, coordination of information between the project and the client [4].

METHODS

To achieve these objectives, the approach taken in this study is to use a quantitative approach, followed by the use of research instruments, before the research instrument is distributed to respondents, a questionnaire is tested on 3 experts to find out which questions fail to understand and then revised. After that, the distribution of questionnaires using snowball sampling technique, which is a sampling technique that was originally small in number, then the sample members (respondents) invited their friends to be sampled and so on so that the number of samples was increasing in number [5].

The competency factors carried out in data collection are to obtain the theoretical basis of the competency factors of expert supervisory consultants. Competency factors that are used as questionnaires are sourced from theoretical references, journals, sources and SKKNI.

In this study, the research instrument was distributed to 120 experts with each category of experts consisting of 30 respondents. Experts in the implementation of construction projects classified as small projects, medium projects, and large projects.

Based on the Regulation of the Minister of PUPR No. 09/PRT/M/2013 there are special requirements for the qualifications of experts and are also used as guidelines for determining the criteria for respondents in this study, the criteria for respondents are:

1. Qualifications of Junior experts, at least D3 graduates with at least 3 years of experience, D4 graduates with at least 1 year of experience and S1 graduates with at least 1 year of experience with at least 4 years of experience.
2. Qualification of Intermediate experts, at least D3 graduates with at least 5 years of experience, D4 graduates with at least 3 years of experience, and S1 with at least 1 year of experience.
3. Qualifications of Primary experts, at least D3 graduates with at least 6 years of experience, S1 graduates with at least 5 years of experience or S1.
4. Respondents in this study in addition to having one of the qualifications as experts also work / are active in supervising construction projects.
5. Respondents are registered with the company as experts in construction project supervision.

Based on the results of distributing questionnaires that have been carried out with snowball sampling techniques from 120 experts, each category of experts consists of 30 respondents, there are 4 categories of expertise, each category of expertise consists of 30 respondents, the

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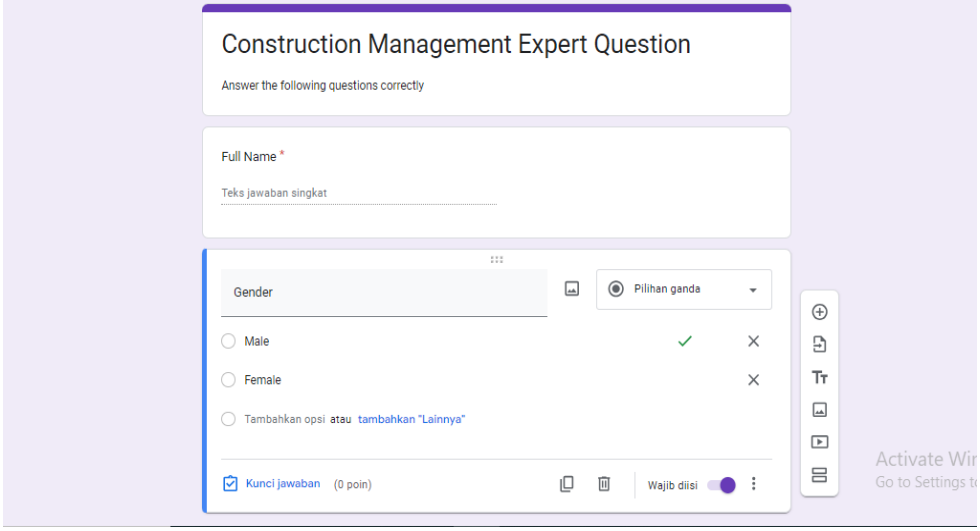
category of expertise of supervisory consultants is a Google form containing 100 items consisting of 3 dimensions of competence distributed by the link below to respondents can be seen as in Figure 1 below:

1. Constrution management expert https://forms.gle/UGSbnqWTxxwzH2d48.
2. Structre expert https://forms.gle/YaJ9cyhjArzu8i5s9
3. Geotechnical expert https://forms.gle/86LGq8iRdQK1Xp8f9
4. Construction safety experthttps://forms.gle/2kyvKM73K8Wbyvyt8



Gambar 1 Google Form

The questionnaire scale used is using a Guttman scale with the provisions of the answer according to the theory if it is correct it is worth 1, if it is wrong it is worth 0, for a statement worth 1 is given if the answer is correct and a value of 0 if the answer is wrong.
Referring to Sugiyono (2014) the percentage assessment criteria are as follows:

a. Categorized as very competent, if 80 < Score ≤100% correct answers
b. Categorized as competent, if the answer is 70 < Score ≤ 80% correct answer
c. Categorized as less competent, if the answer is 55 < Score ≤ 70% correct answer
d. Categorized as incompetent, if the answer is ≤55% correct answers

RESULT AND DISCUSSION

The results of the distribution of questionnaires that have been carried out to each category of supervisory consultant experts are as follows:

Construction Management Expert

Respondent data test results based on competency variables. The total number of respondents as many as 30 construction management experts, obtained the highest score of 94 correct answers work experience> 15 years and have an educational background of Strata I (S1) and there are 27 respondents of construction management experts who have competent assessment criteria from 30 construction management experts and 2 people who have an assessment with a less competent category and 1 person gets an incompetent assessment category with a total answer score <55 correct answers.

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- **Competency analysis of construction management experts based on work experience**

The results of the analysis of construction management experts based on work experience can be seen in Figure 1 below :

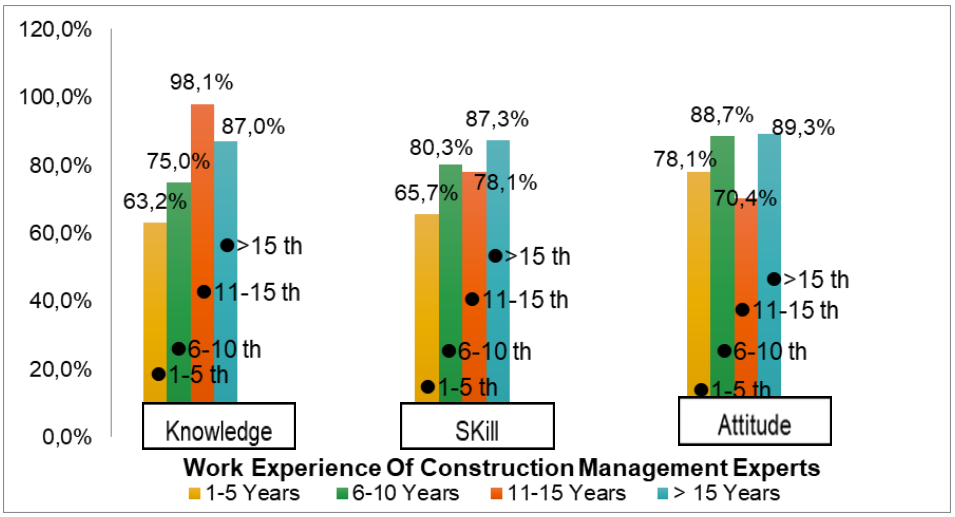

Figure 2 Competence of construction management experts based on work experience

- **Competency analysis of construction management experts based on educational background**

The results of the analysis of construction management experts based on educational background can be seen in Figure 2 below::

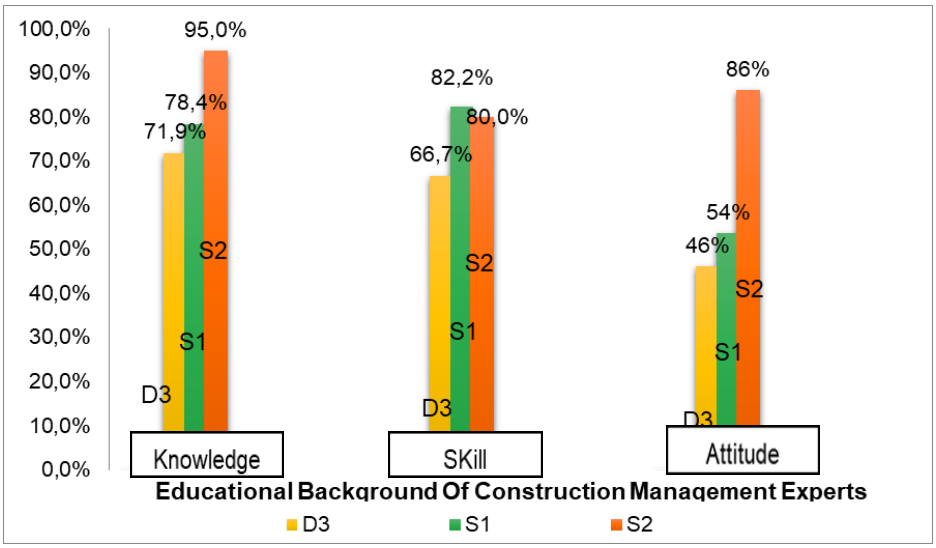

Figure 3 Competence of construction management experts based on educational background

Structural expert

Respondent data test results based on competency variables. A total of 30 structural experts, obtained the highest score of 88 questions correctly answering 11-15 years of work experience and having an educational background of Strata 2 (S2) there are 19 respondents of structural experts who have competent assessment criteria, 10 people with less competent

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categories and 1 expert who gets an incompetent assessment category because he answers <55 correct answers out of 100 questions.

- **Competency analysis of structural experts based on work experience**

The results of the analysis of structural experts based on work experience can be seen in Figure 3 below:

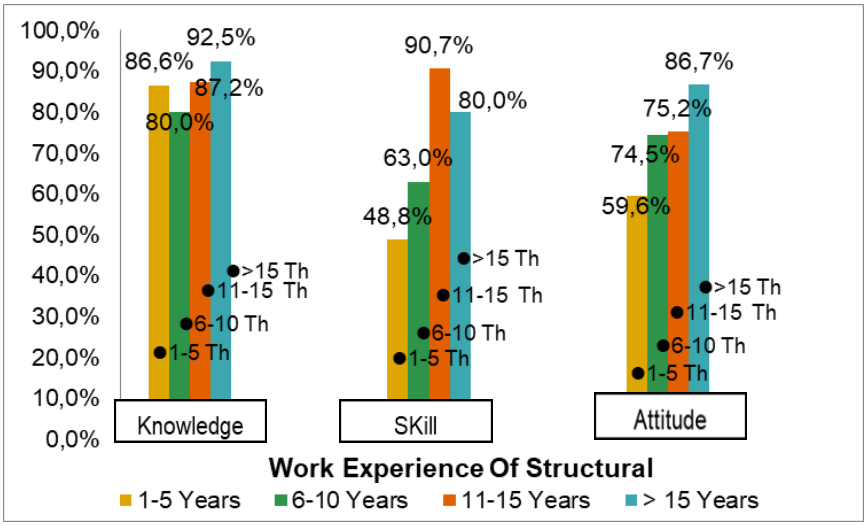

Figure 4 Competence of structural experts based on work experience

- Competency analysis of structural experts based on educational background

The results of the analysis of structural experts based on educational background can be seen in Table 4 below :

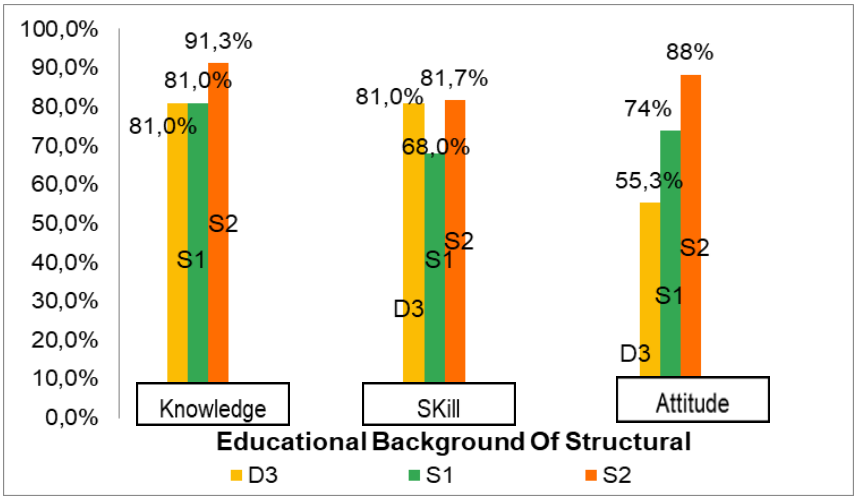

Figure 4 Competency of structural experts based on educational background

Geotechnical Expert

Respondent data test results based on competency variables. The total number of respondents was 30 structural experts, the highest score was obtained, namely 92 questions answered correctly 11-15 years of work experience and had an educational background of Strata 1 (S1) and there were 22 Geotechnical expert respondents who had competent assessment criteria and there were 8 Geotechnical experts who received an assessment in the less competent category.

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- **Competency analysis of geotechnical experts based on work experience**

The results of the analysis of structural experts based on work experience can be seen in Figure 5 below:

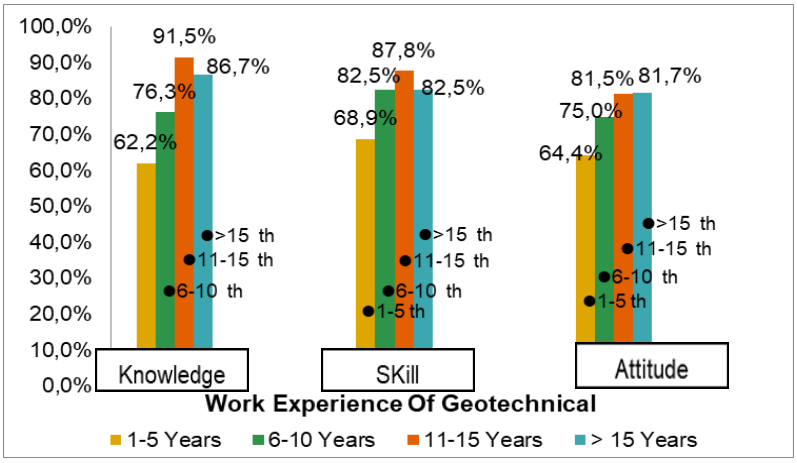

Figure 5 Competency of structural experts based on educational background

- **Competency analysis of geotechnical experts based on educational backgrounds**

The results of the analysis of geotechnical experts based on work experience can be seen in Figure 6 below.:

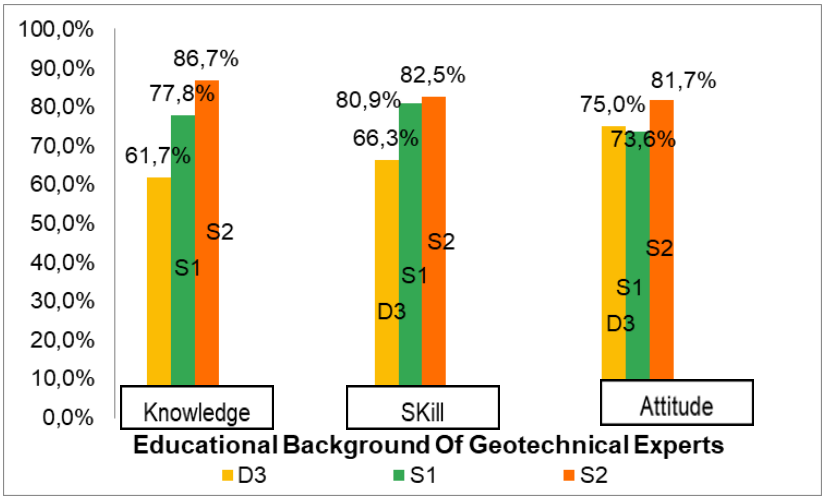

Figure 6 Geotechnical expert competence based on educational background

Construction Management Expert

Respondent data test results based on competency variables. The total number of respondents as many as 30 construction safety experts, obtained the highest score of 92 questions correctly answering 6-10 years of work experience and having an educational background of Strata 1 (S1) there are 25 geotechnical expert respondents who have competent assessment criteria and 5 construction safety experts obtained a less competent assessment.

- **Competency analysis of construction safety experts based on work experience**

The results of the analysis of construction safety experts based on work experience can be seen in figure 7.

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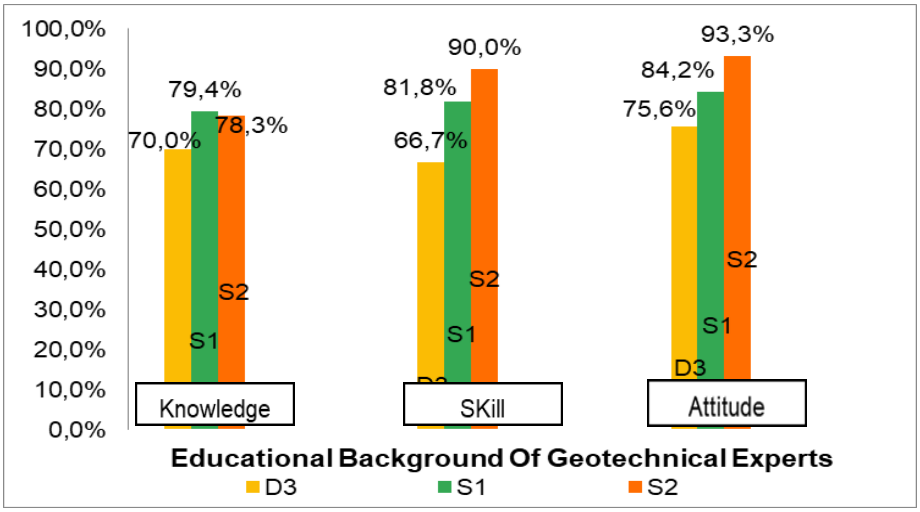

Figure 7 Competence of structural experts based on educational background

- **Competency analysis of construction safety experts based on educational background**

The results of the analysis of construction safety experts based on educational background can be seen in Figure 8 below.:

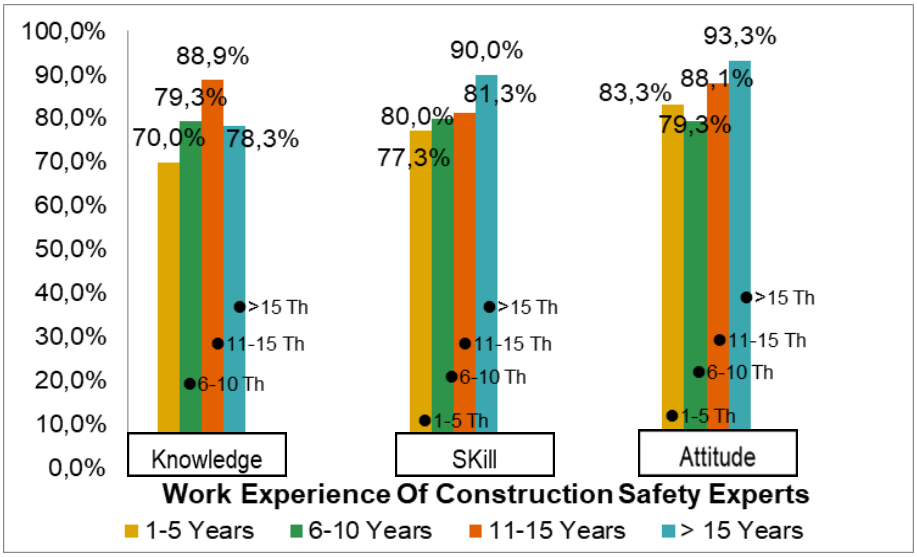

Figure 8 Competence of construction safety experts

Based on the test conducted on each expert, the average score is obtained based on the category of experts, the highest average score of knowledge is structural experts who are able to answer 83% of correct answers and the lowest score of knowledge is in the category of geotechnical experts who are able to answer 77.30% correct answers. In the skill competency, the highest score is found in construction safety experts who are able to answer 81.10% correct answers and the lowest score is obtained by structural experts by being able to answer correctly 66.0%. In the attitude category, the highest score was obtained by construction safety experts who were able to answer 84.20% correctly and the lowest score was obtained by structural experts who were able to answer 71.70% correct answers.

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Table 1 Average scores of experts

No	category Experts	Score Knowledge	Percentage of answers correct	Score Skill	Percentage of answers correct	Score attitude	Percentage of answers correct	Average Score of experts
1	Management Construction	32	80%	24	80,10%	24	81,30%	80
2.	Structure	33	83%	20	66%	22	71,70%	75
3.	Geotechnics	31	77,30%	24	80%	22	74,20%	77
4.	Safety Construction	31	78,30%	24	81,10%	25	84,20%	80
Average Competency		32		23		23		

CONCLUSIONS

Based on the stages of research that has been carried out related to the competence of expert supervisory consultants on the implementation of government projects which are structured based on 3 dimensions of competence, namely knowledge, skills and attitudes. The results of this study obtained the level of competence of supervisory consultant experts from the results of respondents' answers and data processing, it was found that the level of competence of supervisory consultant experts was COMPETENT, namely the assessment category was able to answer correctly 70-79%, with details of the average value of all categories of experts scoring 80% knowledge able to answer correctly, 77% skill answered correctly, 77% attitude answered correctly.

From the identification results obtained, there are still several competency factors that need to be improved by supervisory consultant experts such as lack of understanding and mastery of technical specifications, lack of understanding of implementation methods, lack of ability in work control, lack of understanding of technical administration, and lack of ability in coordination and communication in conducting job evaluation.

REFERENCE

[1] Jumas, D. Y., Ariani, V., & Asrini, A. (2021). *Analysis of the Relationship between the Effectiveness of Construction Worker Competency Training and Kirkpatrick Levels*. Rang Teknik Journal, 4(1), 89-95.

[2] Nurmahani, I. (2021). *Liability of Construction Supervision Consultant in Integrated Work of Government Procurement of Goods / Services*. *Jurist-Diction*, *4*(5), 1791. https://doi.org/10.20473/jd.v4i5.29819

[3] Nopelius, N. C. (2019). STUDY OF COMPETENCY ASSESSMENT OF FIELD SUPERVISORS AT THE PUBLIC WORKS AND SPATIAL PLANNING OFFICE OF SOLOK DISTRICT. *Faculty of Post Graduate, Bung Hatta University*, *14*(3)

[4] Indriani, M. N. (2019*). Analysis of the Role of Planning Consultants and Supervisory Consultants on Project Success. Widya Teknik*, *13*(02), 47-66.

[5] Susanti, T., & Zaidir, B. A. (2019*). Study of Factors Causing Low Productivity of Field Supervisors from the Public Works Office on the Performance of Road and Bridge Projects in South Solok Regency.. Faculty of Post Graduate, Bung Hatta University, 15*(3).