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Analysis of the Fulfillment Level Of Construction Safety Officer Requirements in the Application of Construction Safety Management System by a Small Qualification Contractor in the Environment Banjarbaru City Government

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ABSTRACT

Construction Safety Management System (SMKK) must always be considered to ensure that project management can run well and expeditious, so that would minimize any potential for work accidents involving construction workers. According to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 on Guidelines for Construction Safety Management System (SMKK), contractors are required to have a certificate of a construction safety (K2) officer and apply the SMKK. In Banjarbaru City, there are 127 contractor companies, most of which are small qualified contractor companies. Based on training data in 2018 from the Construction Development Division of the Public Works and Spatial Planning (PUPR) Office in Banjarbaru City, a K2 officer was only totaled 33 for the small qualified contractor who are still active, amounting to 122 companies.

The analytical method used is assessment methods of the fulfillment level of requirements of the respondent's answers, linear regression analysis to determine the factors that affect of the fulfillment level of requirements, and interview methods with people who are considered experts to provide recommendations on existing problems. From the results of the respondent's answers and the results of the analysis, it was concluded that the fulfillment level of requirements for the availability of a K2 officers by the small qualified contractors in Banjarbaru City is the average value of 58.8 with enough interpretation.

Next for the factors that influence are budgetary funds, socialization and training, as well as the knowledge and understanding. The approach that can be taken from the research results obtained are allocation of costs from the Government of Banjarbaru City, update on Sipjaki following the latest, and the activity of small qualified contractors is further enhanced to find out and learn the latest regulations.

KEYWORDS: Small Qualified Contractors, Construction Safety (K2) Officer, Fulfillment Level of Requirements.

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I. PRELIMINARY

1. Background

Construction Safety Management System (SMKK) must always be considered so that project management can run well and smoothly, so that it will minimize any potential for work accidents involving construction workers. The SMKK refers to the law and regulation including: Laws of the Republic Indonesia No. 2 of 2017 concerning Construction Services, as well as the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 concerning the Construction Safety Management System (SMKK) Guidelines. At the stage of selecting a construction service provider (contractor) in the implementation of construction, service users require that service providers must recruit a construction safety (K2) officers who have the SMKK certificate for a small-qualified contractors. In addition, service providers are required to take into account the

cost of implementing the SMKK and attach the Construction Safety Plan (RKK) to the bidding document. With the presence of a K2 officers, they can ensure that the implementation of SMKK has been carried out in accordance with the RKK contained in the Contract Documents.

It is known that there are 127 contractor companies domiciled in Banjarbaru City, which is most of them are small qualified contractors. Based on training data in 2018 from the Construction Development Division of the Public Works and Spatial Planning (PUPR) Office in Banjarbaru City, there were only 33 certified of a K2 officers for all small qualified contractors who were still active and domiciled in Banjarbaru City, which is totaling 122 companies. Therefore, in preparing for the implementation of the latest regulations based Laws of the Republic Indonesia No. 2 of 2017 and the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019, it is necessary to know the fulfillment level of requirements for the availability of certified K2 officers by small qualified contractors and the factors that affect the level of fulfillment of these requirements.

2. The Problem's Formulation

- 1) What is the fulfillment level of requirements for the availability of a K2 officers by small qualified contractors?
- 2) How is the level of influence of factors such as budget funds, socialization and guidance, knowledge and understanding, and human resources (HR) on the level of fulfillment of requirements for the availability of a K2 officers according to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019?
- 3) What kind of approach needs to be taken regarding the influencing factors on the fulfillment of requirements for the availability of a K2 officers?

3. Objectives of the Study

- 1) Determine the fulfillment level of requirements for the availability of a K2 officers by small qualified contractors.
- 2) Determine the influence level of factors such as budget funds, socialization and guidance, knowledge and understanding, and human resources on the fulfillment level of requirements for the availability of a K2 officers according to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019.
- 3) Provide recommendations for solving problems regarding the fulfillment of the requirements for the availability of a K2 officers obtained from this research.

4. Research Restrictions

- 1) The location of the research was carried out at the PUPR Office in Banjarbaru City.
- 2) Research respondents are small qualified contractors who are still active and domiciled in Banjarbaru City. In addition, respondents are involved in the Construction Development Division of the PUPR Office, which is the task and function of implementing socialization activities and technical guidance for contractors to obtain a K2 officer services.

5. Research's Advantages

- 1) Provide information about awareness in an effort to increase compliance in accordance with the provisions of the legislation that need to be carried out by small qualified contractors at the PUPR Office of Banjarbaru City.
- 2) By fulfilling the latest requirements, small qualified contractors can still participate in the construction and can still compete with contractors from outside Banjarbaru City.
- 3) Information can be obtained in supporting the improvement of the quality of human resources, especially a K2 officers by small qualified contractors domiciled in Banjarbaru City in order to meet the standard provisions regarding security, safety, health and sustainability, as well as to realize a strong, reliable, highly competitive and profitable business structure, and the results of quality construction services in accordance with the objectives of the implementation of construction services.

II. REVIEW OF LITERATURE

1) Legal Basis for the Construction Safety Management System (SMKK) and a Construction Safety (K2) Officer

1. Laws of the Republic Indonesia No. 2 of 2017 Concerning Construction Services
Article 3 (b) describes the embodiment of order in the implementation of construction services that guarantees
equality of position between service users and service providers in carrying out their rights and obligations, as
well as increasing compliance in accordance with the provisions of laws and regulations.

In Chapter VI regarding security, safety, health, and construction sustainability, according to Article 59 (1), it is explained that the fulfillment of security, safety, health, and sustainability standards in the implementation of construction services must be fulfilled by service users and service providers.

2. The Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 Concerning the Construction Safety Management System (SMKK) Guidelines

According to the attachment of the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 regarding the duties, responsibilities and authorities of construction service providers:

- a. Has the right to request an explanation from UKPBJ regarding the RKK including the conditions and risks of construction safety that may occur during the job description meeting (aanwizjing) or before the deadline for submitting bids.
- b. Submitting the RKK bid as an attachment to the bid document;
- c. If determined as the winner of the tender then:
- Submitting the RKK which contains all activities in the work to be carried out at the preparation meeting for the implementation of the Construction Work, also called the Preconstruction Meeting (PCM);
- Assign a Construction K3 expert for every job that has a large and medium construction safety risk or a K2 officer for a job with a small construction safety risk.

2. Legal Basis for Construction Services Guidance

1) Laws of the Republic Indonesia No. 2 of 2017 Concerning Construction Services

According to Chapter VIII Article 76 (3) and (4) regarding the implementation of coaching, namely:

- a. Guidance which is the responsibility of the Regional Government is carried out by the governor and/or mayor/regent.
- b. Development of construction services by the Regional Government in districts/cities is implemented through:
- Implementation of Construction Services policies that have an impact only in the district/city area;
- Monitoring and evaluation of the implementation of the national construction service policy in the district or city area.
- 2) Government Regulation No. 22 of 2020 concerning Implementing Regulations from Laws of the Republic Indonesia No. 2 of 2017 Concerning Construction Services

Article 1 explains that the construction of construction services is a business, action, and activity carried out in the context of creating a conducive environment for the development of construction services to achieve the objectives of providing construction services.

Article 84 (1) explains that safety standards are building reliability based on design standards set in accordance with statutory regulations that must be applied during the construction work implementation stage. Safety and health standards are standards to guarantee and protect occupational safety and health which are determined in accordance with the provisions of laws and regulations. Sustainability standards are standards used to ensure sustainability in economic aspects, aspects of local environmental management and environmental management, and social aspects.

- 3) The Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 Concerning the Construction Safety Management System (SMKK) Guidelines
- Article 24 (3) explains that in order to become a K2 officer, one must follow the technical guidance of the SMKK to obtain a competency certificate or training for a K2 officers.
- 4) Mayor of Banjarbaru Regulation No. 49 of 2016 concerning Position, Organizational Structure, Main Duties and Functions and Work Procedures of the Banjarbaru City Public Works and Spatial Planning Service According to article 11 (1), it explains that the Construction Development Division led by a Head of the Construction Development Division has the main task, namely carrying out guidance, supervision, control and implementation of construction development activities in accordance with statutory regulations.
- 5) Decree of the Mayor of Banjarbaru No.188.45/64/KUM/2020 Concerning the Construction Services Development Team and the Secretariat of the Construction Services Development Team

In the third stipulation, the tasks of the Secretariat of the Construction Services Development Team (Construction Services Development Sector), are described as follows:

- a. Develop a construction service development activity plan.
- b. Implement the management of the Construction Services Information System (SIPJAKI) application, namely publishing 7 (seven) information services of construction service in the Banjarbaru City level.
- c. Carry out affairs such as correspondence, training archives, technical guidance and counseling on construction services.
- d. Provide information services on construction services.
- 6) Duties and Responsibilities of a K2 Officers
- a. Carry out construction safety induction.

- b. Communicating and consulting construction safety in the workplace.
- c. Carry out construction safety supervision in the workplace.
- d. Report events that occur, either in the form of incidents or accidents to the Manager or Construction Safety Coordinator.
- 7) Factors and Constraints in the Implementation of Construction Safety Management System (SMKK)
- a. Macro Factors, namely
- Budget funds from the Government;
- Socialization and Guidance.
- b. Micro Factors, namely
- Knowledge and Understanding of minor qualification contractors to the latest laws and regulations;
- HR of small qualified contractors.
- 8) Theory framework
- a. Eligibility Rate

Level according to the Big Indonesian Dictionary (KBBI) is a rank, degree, level. While filling to the brim is called fulfillment. According to the KBBI, fulfillment is the process, method, act of fulfilling or sufficient. Meanwhile, according to the KBBI, requirements are things that become provisions. So, it can be concluded that the fulfillment level of requirements is the level or level of the process of fulfilling or fulfilling the things that are provisions.

b. Budget

According to Mardiasmo (2009), the budget is a statement regarding the estimated performance to be obtained during a certain period of time expressed in units of money, while budgeting is a method or process for preparing a budget for a certain period of time. Fattah (2002) further explains that the budget is an operational plan that is stated quantitatively in the form of financial units that are used as a guide in carrying out agency activities within a certain period of time. Thus the preparation of the budget can be interpreted as an agreement or negotiation to determine the amount of cost allocation in an agency.

- c. Socialization and Guidance
- Socialization

Socialization is the process of learning norms, values, roles, and all other requirements necessary to enable effective participation in social life (Mac Iver, et al. 1961). A person can understand and carry out his obligations, as well as obtain rights based on other requirements by going through the socialization process. The main purpose of the socialization is so that policies and regulations are known and understood.

Guidance

According to Mangunhardjana (1986), guidance is a method of learning by learning things that are not yet possessed with the aim of helping people who live, to justify and improve existing knowledge and skills, and acquire new knowledge and skills to achieve life and work goals. which is done better. Thus, guidance has the aim of maintaining by way of direction or orientation and assistance to the object so that what is expected is achieved.

- d. Knowledge and Understanding
- Knowledge

Knowledge or knowledge is the result of human sensing or the result of knowing someone about an object through their five senses. The five human senses for sensing objects are sight, hearing, smell, taste and touch. At the time of sensing to produce that knowledge, it is influenced by the sharpness of attention and perception of the object. Most of a person's knowledge is obtained through the sense of hearing and the sense of sight (Notoatmodjo, 2014).

Understanding

Arikunto (2013) explains that understanding (comprehension) is how one maintains, distinguishes, estimates (estimates), explains, develops, concludes, generalizes, gives examples, rewrites, and estimates. Meanwhile, the notion of understanding according to In other words, understanding is knowing about something and being able to see it from various angles. Comprehension is a higher level of thinking ability than memory and memorization.

e. Human Resources (HR)

HR is the only resource that has reason, feeling, will, skills and expertise, knowledge, encouragement, power, and work (ratio, taste, and intention). All potential HR affect the company's or organization's efforts to achieve goals. No matter how advanced technology, the development of information, the availability of capital and sufficient materials, without human resources it is difficult for a company or organization to achieve its goals (Sutrisno, 2009).

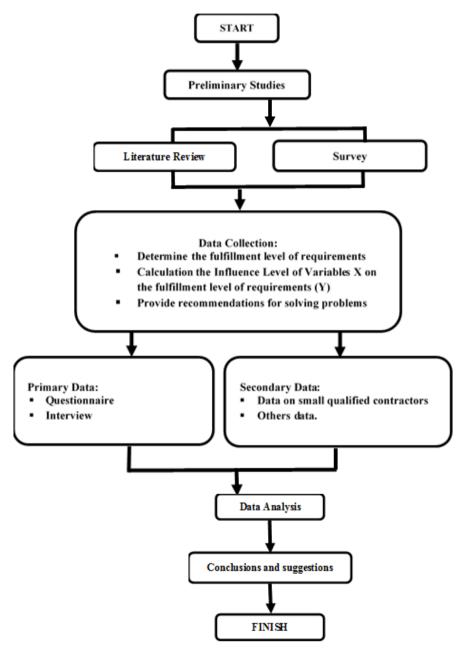
HR is needed to be managed properly so that it is effective and the company's efficiency is increasing. HR is a scheme of various formal systems in an organization with the aim of ensuring the effective and efficient use of

human expertise in order to achieve organizational or company goals in accordance with expectations (Mathis, et al. 2006).

III. RESEARCH METHODOLOGY

1. Research Design

This research design is used to determine the factors that influence small qualified contractors in meeting the requirements for the availability of a K2 officers in the implementation of construction based on Laws of the Republic Indonesia No. 2 of 2017 and the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 so that it can determine the selection of problem solving recommendations found in this study. The stages of the research to be carried out can be seen in the image below.



2. Data Collection

Primary data was collected in the form of questionnaires to the selected respondents and the results of interviews with informants. Meanwhile, secondary data was collected by conducting direct surveys and surveys in the field.

3. Determination the Fulfillment Level of Requirements for the Availability of a K2 Officers

In this study, quantitative research methods were carried out by distributing questionnaires as evidence or confirmation. Furthermore, the research results will be easier to process the data because quantitative research data is clear and definite, and can be presented in the form of numbers, tables, graphs, and so on. The questions asked to determine the fulfillment level of requirements for the availability of a K2 officers by small qualified contractors in Banjarbaru City according to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019.

4. Determination the Influence level of the Independent Variables (X) on the Dependent Variable (Y)

After knowing the percentage of the fulfillment level of requirements for the availability of K2 officers by small qualified contractors in Banjarbaru City, the next step is to determine the influence level of the independent variables on the dependent variable either partially (alone) or simultaneously (together).

5. Determination of Recommendations on Research Results

The next stage is conducting research on the methods used to handle the results obtained in the first and second objectives previously in this study so that they can determine the approach (recommendations) to the research results obtained.

IV. RESULTS AND DISCUSSION

1. Respondent Profile

A total of 65 respondents were divided into several specifications, such as age, gender and position of the respondent in a small qualifying contractor company, as well as employees of the Construction Development Division of the PUPR Office. The questionnaires were distributed to 61 small qualified contractors who were still active and domiciled in Banjarbaru City who were randomly selected. The selection of the largest number of respondents, 61 small qualified contractor companies, aims to determine the fulfillment level of requirements for the availability of K2 officers by small qualified contractors in preparation for the implementation of the latest regulations. In addition, 4 employees of the Construction Development Division were also respondents in this study because they have close relationships with these qualification contractors regarding their duties and responsibilities as implementers of socialization and technical guidance (training) to obtain K2 officer certificates.

As is known, until now the PUPR Office in Banjarbaru City has not implemented the latest regulations regarding requirements for the availability of certified K2 officers in the implementation of construction based on the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019. Therefore, for other parties such as the project committee and the supervisory consultant who are in contact at the work site, they do not know whether the small qualified contractors have or do not have a K2 officer certificate. So, only the contractors themselves know about the availability of certified K2 officers and the data held by the Construction Development Division of the PUPR Office in Banjarbaru City so that those selected to be respondents in this study are small qualified contractors and employees of the Construction Development Division.

No.	Respondent	Number of People	Position
1.	The Construction Development Division of the PUPR Office in Banjarbaru City	1	Head of Division
2.	The Construction Development Division of the PUPR Office in Banjarbaru City	1	Chief of staff
3.	The Construction Development Division of the PUPR Office in Banjarbaru City	2	Staff
4.	The Small Qualified Contractors	37	Director
5.	The Small Qualified Contractors	8	Technical Staff
6.	The Small Qualified Contractors	16	Deputy Director

2. Data Description

The data displayed is data that is processed using descriptive statistical analysis techniques, the way is by entering processing data from the results of respondents' answers to the questionnaire into the SPSS 25.0 for windows program. The data presented in the form of data from the minimum value (lowest value), maximum (highest value), mean (average value), and standard deviation of the questionnaire results that have been obtained from all respondents. The results of descriptive statistical analysis of 65 respondents are in the table below.

No.	Variable	Lowest Value	Highest Value	Average	Dev. Standard
1.	The Fulfillment Level of Requirements (<i>Y</i>)	6	13	8,82	1,600
2.	Budget Funds (X_1)	7	15	10,49	1,631
3.	Socialization and Guidance (X_2)	8	15	10,14	1,657
4.	Knowledge and Understanding (X_3)	6	14	8,15	1,831
5.	Human Resources (X_4)	7	12	9,25	1,323

3. Calculation of Determination the Fulfillment Level of Requirements for the Availability of a K2 Officers

The fulfillment level of requirements for the availability of a K2 officers is determined by using descriptive statistical analysis to describe and get an objective picture. The data obtained are primary data, namely questionnaires that have been collected from 65 respondents. The results of the answers of all respondents are summarized in the form of tables and arranged according to the interpretation criteria of the scores obtained. The answer scores obtained are then totaled, then calculated based on the ideal score that should be achieved and presented as a percentage.

No.	Respondent	Answer Score	Ideal Score	The Fulfillment Level of Requirements Value (%)
1.	Contractor	8	15	53.33
2.	Contractor	12	15	80.00
3.	Contractor	8	15	53.33
4.	Contractor	9	15	60.00
5.	Contractor	10	15	66.67
6.	Contractor	9	15	60.00
7.	Contractor	10	15	66.67
8.	Contractor	7	15	46.67
9.	Contractor	9	15	60.00
10.	Contractor	10	15	66.67
11.	Contractor	9	15	60.00
12.	Contractor	7	15	46.67
13.	Contractor	9	15	60.00
14.	Contractor	12	15	80.00
15.	Contractor	9	15	60.00
16.	Contractor	7	15	46.67
17.	Contractor	10	15	66.67
18.	Contractor	9	15	60.00
19.	Contractor	10	15	66.67
20.	Contractor	9	15	60.00
21.	Contractor	9	15	60.00
22.	Contractor	7	15	46.67
23.	Contractor	9	15	60.00
24.	Contractor	8	15	53.33
25.	Contractor	10	15	66.67
26.	Contractor	9	15	60.00
27.	Contractor	12	15	80.00
28.	Contractor	8	15	53.33
29.	Contractor	12	15	80.00

30.	Contractor	10	15	66.67
31.	Contractor	12	15	80.00
32.	Contractor	11	15	73.33
33.	Contractor	13	15	86.67
34.	Contractor	7	15	46.67
35.	Contractor	9	15	60.00
36.	Contractor	10	15	66.67
37.	Contractor	7	15	46.67
38.	Contractor	10	15	66.67
39.	Contractor	8	15	53.33
40.	Contractor	7	15	46.67
41.	Contractor	9	15	60.00
42.	Contractor	7	15	46.67
43.	Contractor	10	15	66.67
44.	Contractor	7	15	46.67
45.	Contractor	7	15	46.67
46.	Contractor	10	15	66.67
47.	Contractor	9	15	60.00
48.	Contractor	7	15	46.67
49.	Contractor	8	15	53.33
50.	Contractor	9	15	60.00
51.	Contractor	8	15	53.33
52.	Contractor	9	15	60.00
53.	Contractor	6	15	40.00
54.	Contractor	9	15	60.00
55.	Contractor	9	15	60.00
56.	Contractor	8	15	53.33
57.	Contractor	6	15	40.00
58.	Contractor	9	15	60.00
60.	Contractor	9	15	60.00
61.	Contractor	8	15	53.33
62.	The Construction Development Division	9	15	60.00
63.	The Construction Development Division	9	15	60.00
64.	The Construction Development Division	6	15	40.00
65.	The Construction Development Division	6	15	40.00
	Average Score o	f 65 Respondents		58.80

The answer score of each respondent is divided by the ideal score of all questions for the fulfillment level of requirements for the availability of K2 officers variable (Y) and then the results are percentage, so that the value of the fulfillment level of requirements for each respondent is obtained. Furthermore, the value of the fulfillment level of requirements of all respondents is totaled and then divided by the total number of respondents so that the average value is 58,8.

4. Calculation of the Influence Level of the Independent Variables (X) on the Dependent Variable (Y)

1) Determine the Influence Level of the Variables X on the Variable Y Partially by Using the T Test T test was conducted to determine the effect of each independent variables partially on the dependent variable. The results of all regression analyzes carried out to determine the influence level of variables X on variable Y partially using the T test can be seen in the table below.

Regression Test Hypothesis Test		Correlation Coefficient (r) Relationship Level		Influence Level
X_1 - Y	H ₀ rejected	0,341	Low	11,6%
<i>X</i> ₂ - <i>Y</i>	H ₀ rejected	0,540	Medium	29,2%
<i>X</i> ₃ - <i>Y</i>	H ₀ rejected	0,506	Medium	25,6%
X_4 - Y	H ₀ accepted	0,096	Very Low	0,9%

2) Determining the Influence Level of the Variables X on Variable Y Simultaneously Using the F Test F test (Anova test) is a test to determine the effect of all independent variables simultaneously on the dependent variable. The results of the F test obtained from the results of the follow-up to multiple linear regression analysis that had previously been carried out using the SPSS 25.0 for windows program can be seen in the table below.

Regression Equation	F Value	Significance Value	Correlation Coefficient (r)	Determination Coefficient (r ²)
$Y = 0.136X_1 + 0.330X_2 + 0.262X_3 - 0.149X_4 + 3.287$	8,875	0,000	0,610	0,372

3) Recommendations on Research Results

The approach taken on the research results that have been obtained regarding the level of fulfillment of the requirements for the availability of K2 officers by small qualified contractors is as follows:

- a. The allocation of costs from the Banjarbaru City Government to support The Construction Development Division of the PUPR Office routinely carries out its duties and obligations as the executor of technical guidance and the organizer of construction development activities so as to increase the availability of competent K2 officers in Banjarbaru City.
- b. Renewal of SIPJAKI follows the latest regulations that are routinely carried out by The Construction Development Division of the PUPR Office in order to increase the knowledge and understanding of small qualified contractors.
- c. The activity of small qualified contractors is further enhanced to find out and study the latest regulations so that information is not left behind, and always tries to fulfill various requirements that have been applied so that they are more prepared to participate in the implementation of construction in Banjarbaru City.

V. CLOSING

1. Conclusion

- 1) The fulfillment level of requirements for the availability of a K2 officers according to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 is to obtain an average score of 58.8 with sufficient interpretation.
- 2) The variables effect of budget funds (X_1) , socialization and guidance (X_2) , knowledge and understanding (X_3) , and human resources (X_4) simultaneously on The fulfillment level of requirements for the availability of a K2 officers according to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019 (Y) is 37.2% with a strong relationship level.
- 3) a. The approach taken to the results of the research on the fulfillment level of requirements for the availability of a K2 officers is as follows:
- Cost allocation from the Banjarbaru City Government.
- SIPJAKI updates follow the latest regulations which are carried out regularly.
- The activity of small qualified contractors is further enhanced.
- b. The approach given to the results of the research on the level of influence of the independent variables on the fulfillment of the requirements for the availability of K2 officers is that it is necessary to do further research on other variables that affect the fulfillment level of requirements for the availability of a K2 officers by small qualified contractors in Banjarbaru City, this is due to the test results partially still shows the level of the relationship is medium, low, and very low (no effect).

2. Suggestion

- In order to conduct a more in-depth research on 62.8% of other unknown variables that influence the fulfillment of the requirements for the availability of K2 officers according to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019, for example the factor of implementing regulations and policies based on the applicable laws by the project committee on the implementation of construction at the PUPR Office of Banjarbaru City.
- 2) Similar research can also be carried out on the fulfillment of other requirements regarding SMKK to measure the level of compliance with the requirements of the regulation, including the requirements based on

the Minister of Public Works and Public Housing Regulation No. 10 of 2021 regarding amendments to the Minister of Public Works and Public Housing Regulation No. 21/PRT/M/2019.

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