REWORK COST ANALYSIS ON COLUMN WORK IMPLEMENTATION METHODS “CASE STUDY: CONSTRUCTION PROJECT OF HOSPITAL ROEMANI MUHAMMADIYAH PARKING BUILDING SEMARANG”

by Agung Kristiawan

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Muhamad Su'ep*, Ibnu Toto Husodo[2], Putri Anggi Permata S[3], Agung Kristiawan[4]

[1]Faculty of Engineering and Informatics, Universitas PGRI Semarang, Jl. Sidodadi-Timur No.24 Semarang, Central Java 50232, Indonesia

[2]Faculty of Engineering and Informatics, Universitas PGRI Semarang, Jl. Sidodadi-Timur No.24 Semarang, Central Java 50232, Indonesia

[3]Faculty of Engineering and Informatics, Universitas PGRI Semarang, Jl. Sidodadi-Timur No.24 Semarang, Central Java 50232, Indonesia

[4]Faculty of Engineering and Informatics, Universitas PGRI Semarang, Jl. Sidodadi-Timur No.24 Semarang, Central Java 50232, Indonesia

*msuep30@gmail.com

Abstract. *The word of construction is no stranger to rework. In the course of the implementation of construction, rework work may occur which can cause delays in the work process and swelling of the project cost budget. This can be influenced by several problems or factors that are often encountered during development work such as human resourse factors, documentation and disign, managerial with this can be from sevaral that have been mentioned that must be considered when planning construction development. In this study using descriptive research that directly takes data in the field by means of interviews, documentation, observation in order to be able to answer the research objectives properly and correctly according to the data obtained from the aforementioned data collection process. So that it can be seen the most frequently encountered rework jobs in the field. Based on the results of the study, it was shown that the dominant factor causing rework was managerial factor. The type of work that often experiences rework work is the finishing work of the second floor column casting. With the details of the causes of rework, the results obtained are design and documentation 22.5%, managerial 40.4%, and human resources 37.2%. The process of rework in the construction of the R S Roemani Semarang building can be concluded that there are several problems or identification of rework, namely porous columns, column slopes and column centring.*

***Keyword** : Rework, Work methods, Project, and Resourse.*

1. Introduction

According to PERMEN PU 29/PRT/M/2006, a building is a form of construction that is above and/or water that has a function as a place to carry out various kinds of activities that are useful to meet and support human needs. These various kinds of activities include social, cultural, religious activities, business activities and as a place to live or stay. A building construction can

not be separated from problems such as increased costs, work methods that result in rework, the project completion time is late or slow, the material area is not according to the initial planning and cannot reach the predetermined target and the previous building site plan data cannot be found. there is a rework in progress. According to PERMEN PU No. 22/PRT/M/2018 damage is a condition of non-functioning building elements or components. Generally rework or rework in building construction can occur due to several obstacles such as human resources, managerial and design and documentation.

According to [1] defines rework as doing something at least once more, which is caused by a mismatch with the request. To find out the cause of the rework work, efforts are made so that the process work according to a predetermined schedule with this, rework in the world of building construction can be avoided. It is a field activity that is carried out twice, or eliminates activities that were carried out previously as part of the project, where there is no change order or change of order [2]

2. Methods

In writing this thesis, it includes the types of descriptive research methods, because in this writing there are facts that occur. The definition of descriptive itself is research that has a mission to present a detailed information about the social environment, where it will explain the clarification of an event or social fact that exists.

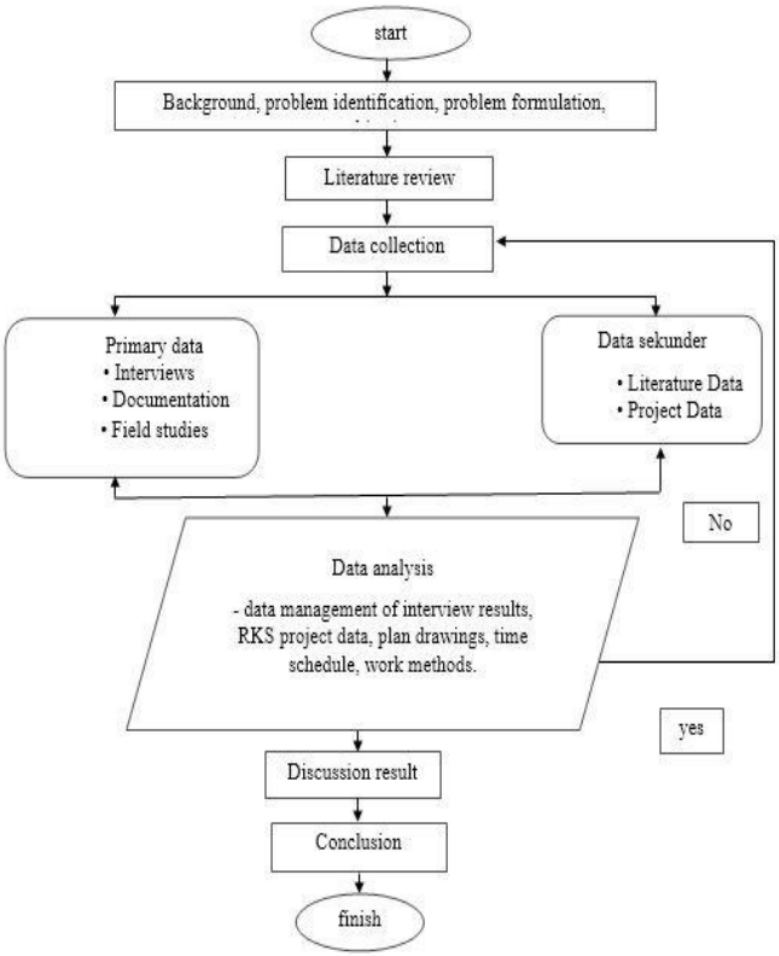

Figure 1. Research Methodology

3. Results And Discussion

The construction of the parking building for hospital Roemani Muhammadiyah Semarang was made to overcome the problem of uneven and irregular parking so that the solution must be a parking building. The construction of a 6-storey parking building consists of various room functions according to the project owner's plan, which has been consulted with the planning consultant. Thus, mobility in the hospital area can run smoothly so that it does not interfere with the performance of health services for hospital patients. This was emphasized by the regional leadership of Muhammadiyah Semarang as the project owner to overcome the problems faced by the hospital.

Primary data, namely data is the result of the direct field from the original source (from the project) the main data used in analyzing the 2nd floor column rework on the construction of the parking building of R S Roemani Semarang. The data obtained from the research are as follows:

a. Porous column work

b. Column slope

c. Centring column

Secondary data sources are data from relevant agencies, studies conducted at the time of research. Secondary data serves as a support for primary data. The data taken include:

a. Data obtained from contract documents such as RAB, RKS, time schedule and working drawings.

b. work method.

c. Journal or book.

Field worker activities carried out more than once or the transfer of implementation activities carried out previously in the project section [3]

The project is a combination of human resources, material equipment and capital / costs that are collected in a temporary organization container to achieve goals and objectives. [4]

To analyze the reliability value of rework cost analysis on column work implementation methods "case study : construction project of hospital roemani muhammadiyah parking building Semarang, it is presented in the following table:

Table 1. Result of rework

Cause of rework	Number causes of rework	Presentase	Ranking
Design and documentation	21	22,5%	3
Managerial	38	40,4%	1
Human Resources	35	37,2%	2
Amount	94		

source: Personal data

The results of the calculation differences can be seen in the table as follows :

Table 2. Comparison Table

Damage Type	Cost	Time
	AHSP	
Porous column	18.270.000	13 day
Centring column	742.300	1 day
Tilt column	5.898.230	9 day

source:Personal data

From the table data above, it can be concluded that the work with the largest expenditure of rework funds and the longest time to repair is the damage to the porous column. the rules that apply and are approved by the relevant directors, because control from the supervisor is very necessary in the world of construction on a small or large scale, so that the slightest error does not occur in doing work.

4. Conclusion

The causes of rework work in building construction are influenced by several factors, including human resources, managerial, document and design factors. This can be seen from the results of the causes of rework including design and documentation with a percentage of 22.5%, managerial with a percentage of 40.4% and human resources with a percentage of 37.2%. Thus the causes of the rework that have been mentioned above must be thoroughly reviewed and for consideration and the resolution process.

Based on the rework calculation process related to crooked column work with a volume of 280 m^2 with a total cost of 18,270,000 with details of plaster and aci work. While the work of centring column with a volume of 2 m^2 at a cost of 742,300. and finally rework inclined column with details of the bending of column reinforcement with a volume of 50 kg with a total of 867,500 while for the installation of column formwork with a volume of 10 m^2 at a cost of 4,417,500. for the details of the formwork scaffolding with a volume of 2 m^2 at a cost of 613,000 so that the cost of a sloping column is 5,898,230.00. So the total for the rework of the R S Roemani Semarang parking building, the 2nd floor column work is worth Rp. 24,910.530.00

Thank-You Note

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