

# Causes of Obstacles in the Implementation of Construction Projects

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## Abstract:

In construction projects in Aceh Province, obstacles often occur in project implementation, both obstacles that have been calculated and obstacles that are beyond the calculations of project planners. These obstacles were the cause of the delay in project completion so that the project did not proceed according to plan, in this case, the irrigation project of the Aceh Province. where there are frequent delays, both technical and non-technical. This research was conducted as an effort to identify the main factors causing obstacles in the irrigation project, this research was conducted by distributing questionnaires to the respondents. Questionnaire data were processed using descriptive statistical methods. The dominant indicator that causes delays in the implementation of irrigation projects in Aceh Province based on the results of the study was the lack of work experience with a mean value of 4.55.

**Keywords** —obstacles, project construction, work implementation, contractor companies

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## I. INTRODUCTION

A construction project is an activity that takes place in a limited period of time, with certain resources, to achieve results in the form of buildings or infrastructure. The success of a construction project depends on the cooperation between the parties involved, namely the project owner, planning consultant, contractor and supervisory consultant. Timely implementation of the project without any obstacles in its implementation is one of the objectives of the project. Project development can experience obstacles in its implementation and can be detrimental to all parties. Each construction project has a specific implementation plan, when project implementation should begin, when it should be completed and how it will be carried out, and how to provide resources.

The project implementation plan refers to the conditions and forecasts at the time the implementation of the plan is made, because problems will arise if there is no match between the plans that have been made and the actual reality. The problems that arise are certainly obstacles that must be avoided so that the implementation of construction projects runs smoothly. Basically, the successful implementation of a construction project is highly dependent on a management control and supervision system that supports the implementation of project objectives. However, due to the complexity of the project and the existence of different dynamics, problems in human resources, materials and equipment, field conditions, service providers, and various other obstacles can occur, which can hinder the implementation of construction projects (Aidil et al., 2021; Rauzana, 2016a; Rauzana & Dharma, 2022a). Delays in project implementation in general always have

detrimental consequences for both the owner and the contractor, because the impact of the delay is conflicting debates about what and who causes it, as well as demands for additional time and costs. The causes of project barriers that often occur in the field are change orders, and work accidents (Rauzana, 2016b; Rauzana & Dharma, 2021). Given the very detrimental impact of such delays, efforts to reduce barriers to project implementation are particularly necessary.

The achievement of this objective will be successful by studying the causes of bottlenecks in project implementation in the province. Based on the background that has been described, the formulation of the problem in this research is what factors can cause delays in the implementation of irrigation projects in Aceh Province, as well as what kind of relationship and influence between these obstacles. factors on the timing of irrigation projects in Aceh Province. The main project obstacle that often occurs is cost overruns (Yap & Skitmore, 2018). Inhibiting factors can lead to project losses (Shahsavand et al., 2018; Zarei et al., 2018), poor productivity, contract documents, and contract termination (Gbahabo & Ajuwon, 2017; Rauzana & Dharma, 2022b). The project obstacle that causes construction delays is Financial problems (Alaghbari et al., 2007; Bagaya & J. Song, 2016).

## **II. METHODOLOGY**

The data used in this research were primary data and secondary data. Primary data was data collected by researchers to answer specific research problems. While secondary data was data collected from other parties to complete primary data. The secondary data used in this study was in the form of contracting company data registered with the

Association for the Development of Construction Services for the Province of Aceh. In this study, the population was addressed to contractors who have handled irrigation projects in Aceh Province, totaling 470 companies, with a total sample of 83 respondents using the slovin formula..

In this study, the confidence level used was 90% and the error rate was 10%. Thus the number of samples obtained in this study was 83 contractors. The sampling technique was carried out by a simple random sampling technique. Where a sampling technique can get the same opportunity to be representative of the population sampled in the study.

The questionnaire used in this study was a closed type of questionnaire, respondents only choose from the answers that have been provided, The assessment of the questionnaire uses a Likert scale. Data analysis was carried out using descriptive statistical methods to determine the characteristics of respondents, and the frequency of response measurements, in solving these problems, regarding the factors that hinder the implementation of irrigation projects in Aceh Province. After collecting the data obtained from the respondents, the data was processed by calculating the Mean value, which is a group explanation technique based on the mean value. The mean value was used to determine the factors that greatly influence the delay in construction project work. This mean was obtained by adding up the data for all individuals in the group, then dividing by the number of individuals in the group.

TABLE 1  
Causes of obstacles in construction projects

Variable	Indicator	Item
Design and Planning (A)	Technical specifications are not clear because they are too general	A1
	Unclear design, out of sync between one item and another.	A2
	Shop drawing not ready in time, no chance to study	A3
	Incomplete project data and information	A4
Implementation and Work Relations (B)	Complicated project coordination	B1
	Project implementation improvised due to lack of planning.	B2
	Complicated work process.	B3
	Weak monitoring function	B4
	There is additional work	B5
	Change of implementation schedule	B6
	Change of implementation method	B7
	Owner's failure to coordinate work	B8
	Incomplete job list	B9
	Postponement of work for financial and legal reasons	B10
	Difficulty in funding and payment of project activities	B11
	A lengthy work permit approval process	B12
	Deviation in delivery time between procurement of materials and equipment	B13
Material (C)	The material sent does not match the specifications in the contract	C1
	Late arrival of materials	C2
	The size of the product material does not match and is not standard	C3
	Material prices are always fluctuating.	C4
	Many materials were lost at the project site during the construction period	C5
	Lack of materials	C6
	The material is not on the market	C7
	Poor material quality control	C8
Labor (D)	Poor quality of labor	D1
	Shortage of labor	D2
	Lack of work experience	D3

Table 1 shows that, based on the results of the study, there were five main factors causing obstacles to construction projects, namely design and planning (A), implementation and work relations (B), materials (C), and labor (D), and there were 28 indicators of the causes construction project barriers.

## II. RESULT AND DISCUSSION

Based on the validity test, shows that all statements contained in the questionnaire were entirely valid. Where all statements in the questionnaire have a value of  $R_{count} > R_{table}$ , so it can be declared valid. The reliability test showed that all variables in the questionnaire were entirely reliable. Where all variables have Cronbach Alpha values greater than 0.6, so they can be expressed reliably. The reliability test can be seen in the following Table.

TABLE 2  
Reliability Test

Item	Variable	Cronbach Alpha
A	Design and Planning	0,977
B	Implementation and Work Relations	0,871
C	Material	0,731
D	Labor	0,789

Descriptive statistical analysis to determine the contractor's perception of the level of influence of the factors that can cause delays in the implementation of irrigation projects in Aceh Province. The mean values for all indicators can be seen in Figures 1-4.

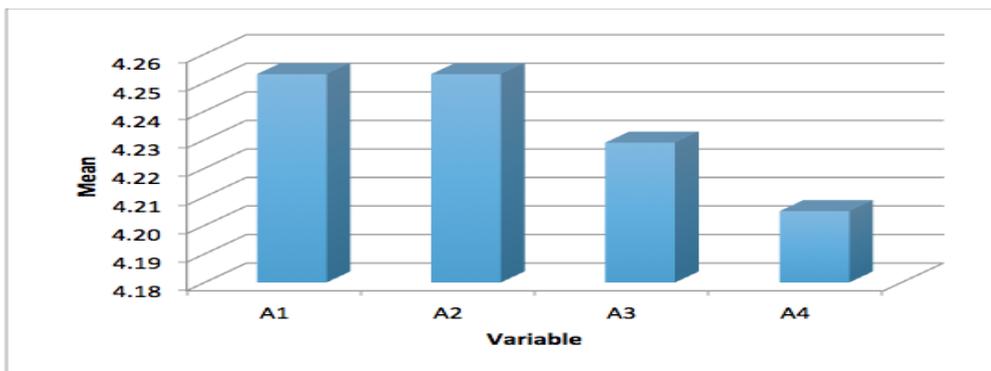


FIGURE 1. The Mean Value of the Design and Planning Variable

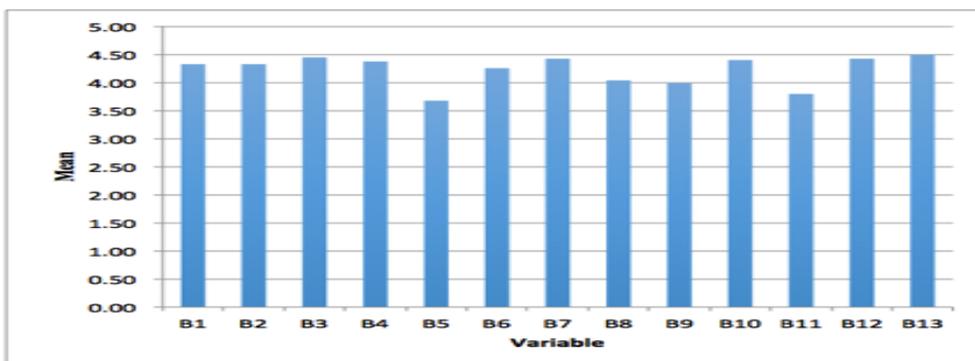


FIGURE 2. The Mean Value of The Implementation And Work Relations Variable

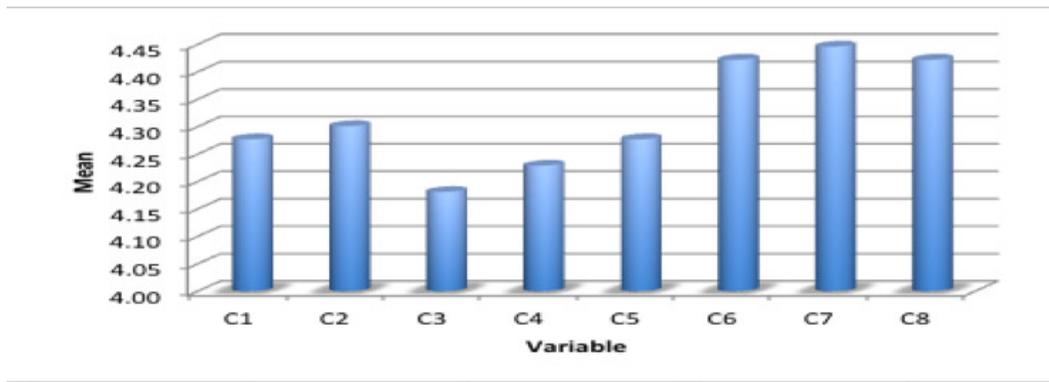


FIGURE 3. The Mean Value of The Material Variable

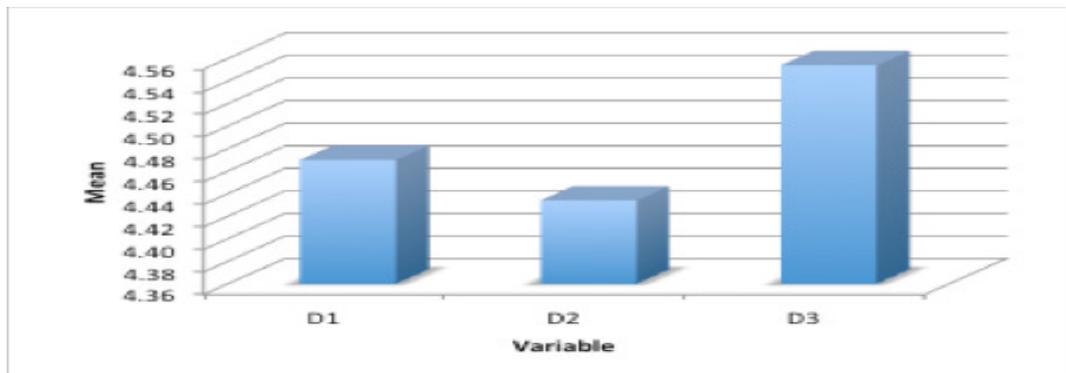


FIGURE 4. The Mean Value of the Labor Variable

Based on Figure 1-4, it was found that the mean value of the factors that cause implementation barriers has a mean value with a close interval. This shows that from the contractor's perspective, all of these factors can cause obstacles in the implementation of irrigation projects in Aceh Province. By looking at the mean value from the highest to the lowest, the dominant indicator that causes obstacles to implementation in irrigation projects in Aceh Province, from the contractor's perception is the lack of work experience with a mean value of 4.55. Experienced workers are the process of forming knowledge and skills about the method of a job, where the workforce is very involved in carrying out work in the field. Experienced workers can produce quality contractor performance, in this case, is the performance of

contractors who can give the best contribution in achieving company goals

#### IV. CONCLUSION

The dominant indicator that causes delays in the implementation of irrigation projects in Aceh Province based on the results of the study was the lack of work experience with a mean value of 4.55. Contracting companies should be recruiting a workforce based on the experience of the workforce to avoid project delays. Contractors need to provide knowledge, skills, and training to workers in mastering work methods and procedures in the field

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