

CHAPTER I

INTRODUCTION

A. Background

Good project scheduling is an important component in the planning and control of a project, before beginning a project estimate the duration and cost of the project is a basic plan which is intended to complete the project to be on time and within the planned budget. When a project begins, actual performance is monitored and analysed to revise estimates of the remaining work, the main purpose of estimation of this work is to obtain a warning signal that corrective and preventive actions can be done in a proper way, these estimates need to be revised and compared with the time schedule completion and project budgets available. Therefore, the effectiveness control of the project depends on the project manager's ability to estimate the time of completion and the final cost of the project in an appropriate manner.

In the same case, this research was conducted on a building renovation construction project BPJS Surakarta built by PT. Penta Electro Powerindo which acts as a contractor, the construction of the building renovation project BPJS Surakarta planned to begin in August 2016 and was completed in December 2016. But in its implementation, the project suffered a setback in the execution schedule that caused the project to incur additional costs (overrun) in order to achieve the planned schedule, these problems an interesting study to investigate, the researchers wanted to evaluate how the control of management time and cost of completing the construction project by using the Precedence Diagram method (PDM) and the curve "S".

B. Problem Formulation

Based on the background of the problem, then the problem is formulated as follows:

1. Has the plan time equal to the time plan for building renovation project implementation BPJS Surakarta?

2. Has the plan costs equal to the cost of the building renovation project implementation BPJS Surakarta?
3. How to evaluate the time and cost by using the *Precedence Diagram Method* (PDM) and the curve "S"?

C. Research Objectives

Purpose of this research include the formulation of the problem, among others:

1. To know the time plan analysis and time implementation analysis.
2. To know the cost analysis plan and implementation cost analysis.
3. To know the analysis of time and cost evaluation by using the *Precedence Diagram Method* (PDM) and the curve "S".

D. Benefits Research

Benefits of this research is divided into two factors, among others:

1. Internal
 - a. As one of the requirements in completing undergraduate education Faculty of Civil Engineering, University of Muhammadiyah Surakarta.
 - b. To know a good scheduling techniques, manage and organize the activities in the project.
2. External
 - a. Provide input to the parties involved in the project decision making is mainly contractors in order to streamline and make effective use of the cost and time of the project.
 - b. As the evaluation of project scheduling is good for the companies concerned so expect to scheduling future projects will be better.
 - c. The results of this research are expected to be useful for subsequent researchers who want to discuss about the use of methods PDM and the curve "S" in evaluating the time and cost in a project.

E. Limitations

Limitations problem as it exists in this research include:

1. The primary data research comes from BPJS building renovation project Surakarta.

2. Collection of secondary data research comes from Surakarta BPJS building renovation project.
3. Discussion of research on the evaluation of costs and time in BPJS Surakarta project.
4. Research using PDM method and the curve "S" to evaluate the costs and time in BPJS building renovation project Surakarta.

F. Systematics Research

Based on the final project titled Evaluation of Time and Cost at the Project Building Renovation BPJS Surakarta in Central Java, systematic research as follows:

1. Chapter 1 Introduction

This chapter will discuss the background of the problem, research objectives, the benefits of research and the limitation problem of project which will be discussed in this final project with the hope of results obtained in accordance with the desired.

2. Chapter 2 Literature Review

This chapter provides an overview of similar research that have been done by previous researchers, which is expected to be a guideline for researchers to complete the research properly.

3. Chapter 3 Theoretical

This chapter will discuss the basic theory used in the preparation and calculation of this final project, an explanation the method of Precedence Diagram Method (PDM), the curve "S" and theories related to the title will be discussed in this chapter.

4. Chapter 4 Methodology

This chapter explained about the types of research, research sites, data sources, data collection methods, methods of data analysis and research scheme.

5. Chapter 5 Data Analysis

This chapter contains a detailed explanation the method of calculation based on data obtained from the contractor, the data obtained were then

evaluated based on the time and cost of the project to obtain the desired project completion time.

6. Chapter 6 Conclusions and Recommendations

This chapter contains the conclusions of the research results that have been obtained and suggestions that need to be taken into account for further research.