

## CHAPTER 1 INTRODUCTION

### 1.1 Background of Problem

According to Project Management Institute (2017a), project is a temporary event to create a unique product or service towards deliverables. Furthermore, project management is the implementation of knowledge, skill, tools and technique to satisfied project requirement. Project has divided into five process group such as initiating, planning, executing controlling and monitoring, then closing (PMI, 2017a). Throughout the process group of the project there are 10 knowledge areas identified as a guide to accomplish the project success. One of the knowledge areas is scope management.

According to Mulcahy (2018) scope management is the process of defining work required and ensuring only the work required is completed, means scope addresses the requirements and work of the project. The Project Management Body of Knowledge (PMBOK) confirmed there are six main steps in scope management process namely; plan the scope, collect the requirements, define the scope, create work breakdown structure (WBS), validate scope and control the scope.

The scope management is a critical function in project management process hence, scope constrained in projects are bounded by the performance criteria of the deliverables. So, any changes in scope shall directly reflects change in cost, time and quality of project (Al-Rubaiei et al., 2018). Moreover Wyngaard (2012) stated the change in cost, time, scope, and quality is called triple constraint. Figure 1.1 illustrates the effect of changes in the triple constraint.



Figure 1. 1 Project Triple Constraint Triangle

Project time reflect the scheduling and duration of the project, cost reflect the budget and resources of the project, and the scope reflect requirements and work of the project. A time-constrained project is bounded by the completion agenda, whereas a cost-constrained project is bounded by the scheduling of expenditure. Scope-constrained projects are bounded by the performance criteria of the deliverables. Project quality constitutes an integral dimension of project management and is supported by the triple constraint.

Many projects start with terrific ideas, large investments and strong efforts. However, most of them do not reach much success. A common contribution to the unsuccessful project is the lack of understanding in defining project and product scope at the start of the project (Mirza et al., 2013) . The statement supported by Pulse of the Profession Global Survey regarding the major cause of project failure published by Project Management Institute (PMI) described in Figure 1.2.

Figure 1. 2 Major Cause of Project Failure



Source: (PMI, 2017b)

Figure 1.2 shows there are 12 major problems in the project and three main factors caused project failure are; Change in Organization’s priority 41%, Inaccurate requirements gathering 39% (Red bar) and Change in Project Objective 36%. These three highest failure rates are closely related to the scope of project especially inaccurate requirements gathering. According to Rita Mulcahy (2018) requirement

is critical to the project success, as a missed requirement could mean significant changes and conflict throughout the remainder of a project and even project failure, that is why requirement must be evaluated against business case, ranked and prioritized to determine what is in and out of scope.

Hereinafter, Figure 1.3 shows further research published by PMI (2017b) in Pulse of the Profession Global Survey which found 49% projects experienced in scope creep or uncontrolled changes to the project scope when it is completed (Red bar) .

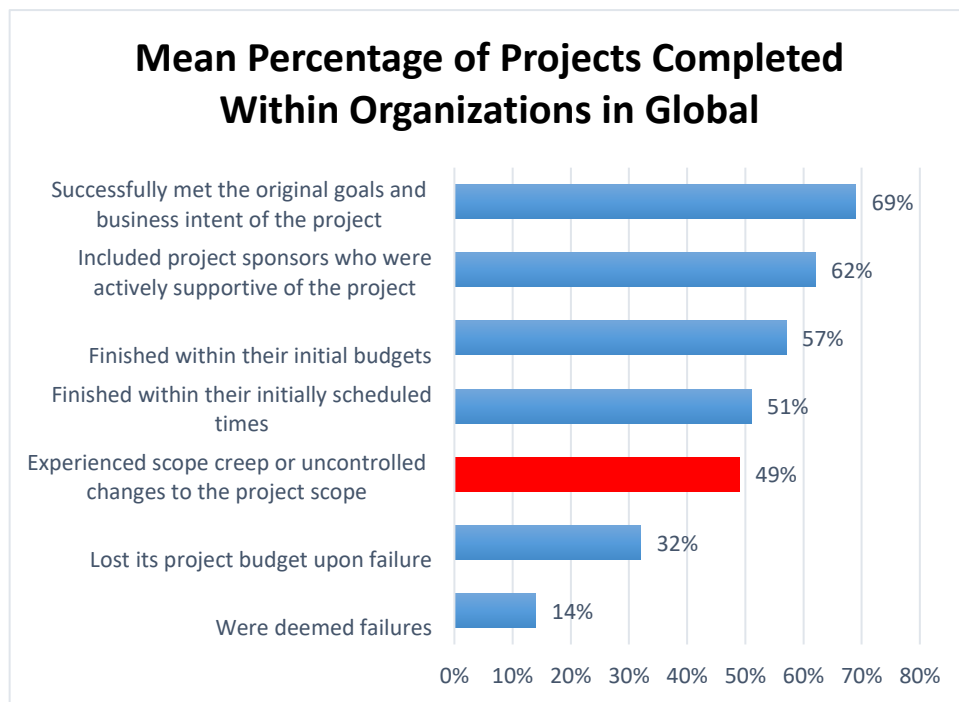


Figure 1. 3 Percentage of projects Completed Within Organization in Global  
Source: (PMI, 2017b)

Figure 1.3 shows 49% of the project has lost its credibility because unable to control planned cost and time which could impact to the stakeholder satisfaction. In response to Figure 1.3 scope management must have considered to get attention, the reasons why scope management is important are listed as follows (Al-Rubaie et al., 2018);

1. Avoid challenges during the project execution phase especially when there is a new or amendment on the scope.
2. Clearly in determining "what is" or "is not" included in the project.
3. In the execution phase it controls and monitor what gets added or removed.

4. Establishes control instruments to address factors that may result in changes during the project lifecycle.

The final output of implementing scope management is to get formal acceptance of deliverables based on required requirement through validate scope process. Validate scope is the process of checked and tested required project deliverables based on defined and planed requirement (PMI, 2017a). Validate scope process determine whether development of product meet requirement of a given activity and whether the product satisfied user needs (Incorporates IEEE, 2017). In other words, this process focuses on Client's acceptance and confirmed through formal acceptance of all project deliverables as a whole. Validate scope is critical, since it ensure the project team delivers exactly what the customer requested and minimize scope changes (Hans, 2013). Furthermore, PMI (2017a) stated validate scope process is important to make sure only work required is completed align with it is objective and increases probability of final product, services or result and ensure the impact of the change request if exist because it helps to avoid scope creep. As for, this activity performed whether the requirement is correct, accurate, consistent and testable (Incorporates IEEE, 2017).

Infrastructure is one of the most important project in Indonesia since it is development has contribution to the economic growth (Pratami et al., 2018). One of major insfrastructure projects in Indonesia is telecommunication project. There are a lot of companies' major field in telecommunication service provider and one of them is PT.XYZ. in order to support the vision and mission to broaden internet networking around Indonesia, PT.XYZ has expand it is core business to all regions in Indonesia and one of them is located in Sukabumi, called Witel Sukabumi. In the area of network and service development Witel Sukabumi has special unit called Access Optima and Maintanance. One of the biggest projects handled by unit Access Optima and Maintanance is project Outside Plan (OSP) Fiber to The Home (FTTH) Profisioning Type 3 (PT3) Shift to the Front (STTF). Can be abbreviated as STTF project.

Project STTF, is a quarterly project to provide new network infrastructure for internet, phone, and TV as the service product for local society based on customer

demand. Through project STTF, communities who stays in remote areas able to access the internet with high speed as well as urban communities. To execute the project STTF, PT XYZ as the project owner entrusts the project to PT ABC as project executors. PT.ABC is a subsidiary company of PT.XYZ which engage in the field of planning, Installation, and maintenance for telecommunication service. The current project of PT.XYZ handled by unit Optima and Maintanance is Project STTF 1<sup>st</sup> 2020 to develop new network infrastructure which spread to four locations such as Sukabumi, Cibadak, Sindanglaya and Cianjur.

Based on best practice performed in PT.XYZ, in general most of STTF project has exceed the costs from it is planning during the implementation. This statement support by the data from unit Contruction and deployment. Figure 1.4 shows during the implementation of project STTF-4 in 2019 which consist of 30 project locations 43% has experience in over project cost. The problems that have occurred so far are generally influenced by the project scope. The project scope often hampered with the land licensing during the project execution which effect to the increase of scope scale and replanning which effect to the delay of project execution. The 7% project has been dropped because experience in scope creep due to lack of planning preparation and out of budget.

### PROJECT STTF-4TH 2019 STATUS

■ Over Budget ■ On Budget ■ Drop

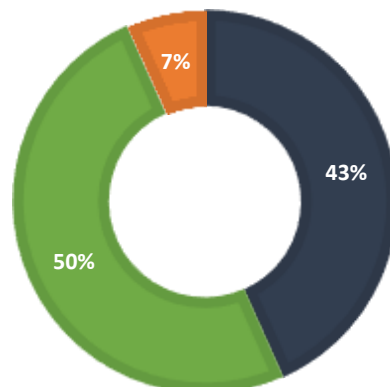


Figure 1. 4 Project STTF 4<sup>th</sup> 2019 Status

In addition, the availability of skilled Human Resource often not available due to responsible with other projects. The impact of the lack of HR is effect to the quality of project deliverables. The data of ODP Occupancy in 2019 found that 60% of total ODP in all project locations has not reach 40% the target of the customer occupancy.

Table 1. 1 ODP Occupancy for project STTF 2019

Row Labels	Sum of USED	Sum of KAP	Average of OCC%
[-] STTF 1	1476	4352	34%
+ CIANJUR	341	896	38%
+ CIBADAK	239	560	43%
+ SINDANGLAYA	887	2864	31%
+ SUKABUMI	9	32	28%
[-] STTF 2	794	1952	41%
+ CIANJUR	165	784	21%
+ CIBADAK	588	1096	54%
+ SUKABUMI	41	72	57%
[-] STTF 3	680	2256	30%
+ CIANJUR	166	744	22%
+ CIBADAK	262	648	40%
+ SINDANGLAYA	172	472	36%
+ SUKABUMI	80	392	20%
[-] STTF 4	159	440	36%
+ CIANJUR	111	296	38%
+ CIBADAK	10	24	42%
+ SINDANGLAYA	22	96	23%
+ SUKABUMI	16	24	67%
<b>Grand Total</b>	<b>3109</b>	<b>9000</b>	<b>34%</b>

Most of the locations with below 40% of occupancy is located in remote areas because PT. XYZ prioritize to perform acceptance test inspection for high accessibility of project locations. This issue become the reason why level of discrepancy in remote area is high for example issue of sloping pole, and high cable attenuation resulting to bad quality of network signals which effect to the customer occupancy.

In respond to the issue, the project performance and result were not in accordance with the expectations of the management of PT. PXYZ. This is detrimental to the company, because the results are not achieving the expected profit targets in each project. Management hopes that the next projects that are carried out can be completed suit to the standard requirement and in accordance with the planned budget. Based on these conditions it is concluded that there is a gap between management's expectations and the circumstances that occur at this time.

The root of the problem which being the basis of this research is PT. XYZ has not implemented comprehensive project management best-practices. Because PT.XYZ has not perform an evaluation focuses on scope validation yet. Scope validation has strong correlation with the scope, requirements, and performance established to assuring the quality standard of final product (Aleem et al., 2003). In Opposite, lack of implementing scope validation increase the non-comformity of product because the standardization is directly reflect against the result of the project which can increase public confidence as well as market opportunities (Gawlik et al., 2007).

During the internship, project STTF 1<sup>st</sup> 2020 has done the quality control phase, whereby this project is currently doing validate scope process. After conduct the discussion with the project manager. The project manager request to do in-depth analysis regarding performance and effectiveness of existing validation process standard since for project STTF-2020 the central unit customer has targeting the ODP occupancy up to 60%. Validate scope in project STTF is importance process for PT.XYZ as project owner to make sure the project, and product deliverables meet the specific requirement to qualify the standard in both project and product quality.

Furthermore, Due to problem described in this project, it is necessary to do in depth analysis regarding validate scope in project STTF 1<sup>st</sup> 2020, to ensure the process qualify the standard in project management process, the process is compared to the international standard guideline. According to Ilies (2010) after comparing seven project management standard such as PMBOK, Prince, P2M, PCM, ISO10006, ICB and OPM3 qualitatively, the research conclude PMBOK is the most applicable guideline in all types of organizations, from all over the world because of it is

general nature. Further research stated PMBOK is the most detailed project management guide with the suggestion of project management tools and techniques compared to the other most used project management references such as ISO 21500, and ISO or IEC 29110 (XUE, et al., 2016). In other words, PMBOK Guide is process based because it describes work to complete by process and it describes the process in terms of input, tools and technique, and output (Ilieş et al., 2010)

In PMBOK, validate scope falls under the knowledge areas of project scope management in monitor and control process which specifically described the standard process of how scope is being validated. On the other hand, best practice regarding process in PMBOK and in project PT.XYZ also performed. As the result, PMBOK is suit to validate scope process in PT.XYZ. Therefore, PMBOK is the relevant project management standard to be compared with the practice in project STTF for evaluation. Furhermore, to see the extent of operational standard effectiveness perform during the implementation of project, two project locations are selected based on best practice during the internship.

The location is located in different areas, each location has different scope and requirement. Project in Babakan Sari location start from ODC-CJR-FDH existing until ODP-CJR-FDH/023 connected using Fiber Optic air cable with 5300 meters with 14 ODP to be installed costing up to Rp. 315,962,524. Project in Kampung Logi location start from ODC-CMO-FAE existing until ODP-CMO-FAE/028 connected using Fiber Optic air cable with 1950 meter with 6 ODP to be installed costing up to Rp. 164,876,033.00. The time at completion for both project locations falls in 90 days including scope validation. Below is the detail description of research objects.

Table 1. 2 Research Objects Description

Location	STO	Duration	Scope	Cost
Kp. Logi	CMO	90/days	ODC-CMO-FAE existing until ODP-CMO-FAE/028	Rp. 164,876,033.00
Babakan Sari	CJR	90 /days	ODC-CJR-FDH existing until ODP-CJR-FDH/023	Rp. 315,962,524.00





Figure 1. 5 OSP FTTH Kampung Logi Location  
(Source: Company Data)

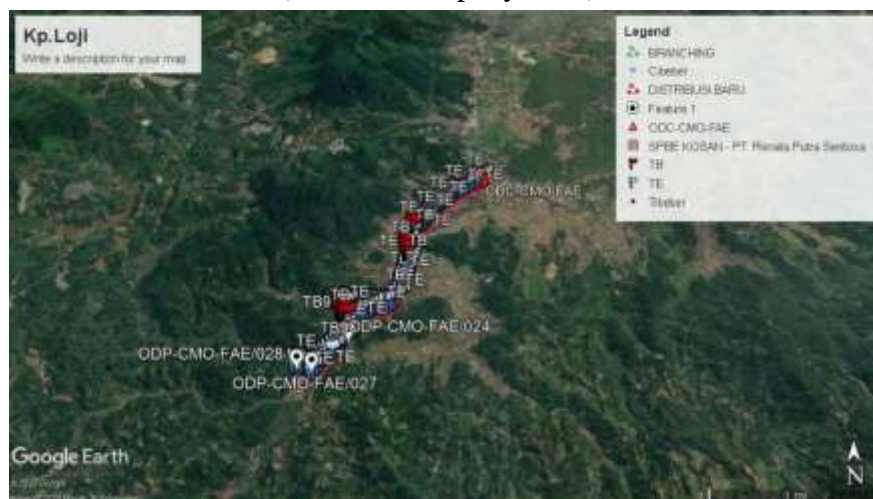


Figure 1. 6 OSP FTTH Babakan Sari Ciranjang Location  
(Source: Company Data)

Both project locations performed in different locations, managed by different project coordinator, and different scope required. Furthermore, these project locations costed up to Rp. 480.838.557 contributed to 6.6% from overall project cost.

In this research, the validate scope process for both locations in Kampung Logi and Babakan Sari shall be compared to standard process in PMBOK using comparative method and matrix as a tool to help identify gaps of implementation. According to Sugiyono (2015) Comparison is the process of comparing one or more variables to two or more different samples or different time. The purpose is to know the

difference between one group and another group regarding one or several variables. To support the in-depth analysis, findings from comparison shall be analyzed qualitatively. Therefore, this research carried out to validate scope process evaluation using comparative method based on Project Management Body of Knowledge 6<sup>th</sup> Editions in Project STTF-1 2020. In response to the problem stated above, hopefully this research is able to give contribution regarding validate scope process evaluation and improvement for project STTF 1<sup>st</sup> 2020 in PT. XYZ.

## **1.2 Problem Formulation**

According to the description of problem above, the problem formulation to be discussed in this research is listed as follows:

1. How does validate scope process performed in Project OSP FTTH PT3 STTF-1 TREG-3 2020 (Case Study PT.XYZ)?
2. Does the validate scope process in project OSP FTTH PT3 STTF-1 TREG-3 2020 have gaps of implementation compared with the standard practice in PMBOK 6<sup>th</sup> Editions (Case Study PT.XYZ)?
3. How is the recommendation for validate scope process improvement in Project OSP FTTH PT3 STTF-1 TREG-3 2020 (Case Study PT.XYZ)?

## **1.3 Research Objective**

### **General Objective**

The general study of this research is to identify gaps of implementations in validate scope process by comparing best practice of literature study with practical experience.

### **Specific Objectives**

The specific research objective of this research is listed as follows:

1. Give information regarding how validate scope process performed in Project OSP FTTH PT3 STTF-1 TREG-3 2020 (Case Study PT.XYZ).
2. Identify the gaps occurred in validate scope process between project OSP FTTH PT3 STTF-1 TREG-3 2020 against PMBOK 6<sup>th</sup> Edition (Case Study PT.XYZ).

3. Propose improvement for validate scope process in Project OSP FTTH PT3 STTF-1 TREG-3 2020 (Case Study PT.XYZ).

#### **1.4 Research Scope**

The research scope in this research is listed as follows

1. The object of the research is Project OSP FTTH PT3 STTF-1 TREG-3 2020 in Kampung Logi and Babakan Sari (Case Study PT.XYZ).
2. The project management standard practice use to be compared with Project OSP FTTH PT3 STTF-1 TREG-3 2020 in Kampung Logi and Babakan Sari is Project Management Body of Knowledge 6<sup>th</sup> Editions published by PMI.
3. This research only focuses on input, tools and technique, and output of validate scope process in Project OSP FTTH PT3 STTF-1 TREG-3 2020 Kampung Logi and Babakan Sari location against PMBOK 6<sup>th</sup> Editions.

#### **1.5 Research Limitation**

Research Limitation in this research is listed as follows:

1. The data is collected in different time frame, during validate scope process in 12 March 2020 up to 05 June 2020.
2. The result of research findings only proposed as material to be considered for future validate scope process improvements of similar project in PT.XYZ.

#### **1.6 Research Benefit**

1. Provide information how validate scope process performed in roject STTF 1<sup>st</sup> 2020 in PT.XYZ.
2. Provide further information regarding how validate scope process in PMBOK6<sup>th</sup> Editions.
3. Provide information regarding the gaps identification between validate scope process performed in PT.XYZ with PMBOK 6<sup>th</sup> Editions.
4. Provide information regarding data integration in validate scope process performed in project STTF 1<sup>st</sup> 2020.
5. Provide information regarding tools and technique used in project STTF 1<sup>st</sup> 2020.

6. Able to know the propose improvement for identified gaps within validate scope process.
7. Give contribution as lesson learned for future similar project.
8. Give contribution as reference to help future research.

## **1.7 Systematic Writing**

Below is the systematic writings process in this research:

### **Ch 1 Introduction**

Chapter 1 Introduction discuss the background of problem of the research. Moreover, this chapter also discuss the problem formulation, research purpose, research scope, research limitation, research benefit and systematic writing.

### **Ch 2 Literature Study**

Chapter 2 Literature study consist of concept or materials use for the research and literature review to support the research.

### **Ch 3 Research Methodology**

Chapter 3 Research Methodology consist of conceptual model as the flow of problem-solving. This chapter shows the systematics and step by step of problem-solving related in this research.

### **Ch 4 Data Collection and Management**

Chapter 4 data collection and management consist of data needed to support the research and explain how the data are being managed.

### **Ch 5 Analysis**

Chapter 5 Analysis discuss about the analysis from data collection and management including propose improvement against discussed problems.

### **Ch 6 Conclusion and Suggestion**

This chapter is the ultimate phase of the research. This chapter talking about the conclusion from the research. The conclusion consists of overall information and suggestion for the research improvement in the future.