

# Analysis Implementation of The Project Management Tools and Techniques PT. XYZ in Indonesia

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**Abstract**—*The level of business competition of an organization at this time is increasingly high. This is caused by economic factors and the presence of new competitors. Many organizations do not have the ability to deal with these conditions. Management of innovation and improvement that is limited by time, cost and quality are referred to as project management. Many methods, techniques, and tools have been developed, covering all aspects of project management from start to finish. If project management practices are implemented correctly, it allows for increased efficiency and productivity. In this study, how project management is implemented by evaluating the use of project management tools and effectiveness in supporting projects that run in the organization of PT. XYZ. This is done by distributing questionnaires to 30 respondents involved in the project that was carried out in 2018 to the present. The analytical method used is descriptive analysis and inferencing using SPSS used to determine the use of tools and project management techniques. Results in this study project management tools and techniques most often used by PT XYZ are progress reports, activity lists, and project charter. From the position positional factors and managed project costs factors are have significant value that affects the use of project management tools and techniques at PT XYZ in Indonesia.*

**Keywords**—*Project Management, Project Management Tools and Techniques, Project Management Implementation.*

## I. INTRODUCTION

### A. Background

The level of business competition of an organization at this time is increasingly high. This is caused by economic factors and the presence of new competitors. Many organizations do not have the ability to deal with these conditions. The inability to manage innovation and improvement will have a negative impact on an organization. More significant impacts will be experienced namely cost overruns, time delays, and the appearance of quality problems [1].

Management of innovation and improvement that is limited by time, cost and quality are referred to as project management. Many methods, techniques, and tools have been developed, covering all aspects of project

management from start to finish [2]. Nevertheless, project management remains a very problematic effort. This is indicated by the fact that there are still many project management that fails to meet the expectations of stakeholders and they continue to be disappointed with the project results [3]–[5]. For example, Standish Group International shows that, in 2008, only 32% of all software projects surveyed were successful (eg, delivered on time, within budget, with features and functions needed); 44% are challenged (late, exceeds the budget and/or with less than the required features and functions), and 24% of the projects fail (canceled before being completed or sent and never used).

When project management practices are properly implemented, it allows for increased efficiency and productivity [6]. According to [7], project management practices are very important for many organizations as a way of handling the development of their organizations to manage resources, time, costs, and quality control. However, organizations must ensure their project strategy, before implementing better practices [8].

According to [9] there is a significant impact on the use of project management tools and techniques from the point of view of the program manager/project director with project members in seeing the initiation phase with project finalization. This is what later in the research is done on how the sample is distributed not only to the project manager but to the project members to ascertain what factors influence the use of project management tools and techniques.

PT. XYZ is a multinational company engaged in leather tanning to become a shoe product based in Denmark. In Indonesia, this factory was established in 1990 and became the first factory in Asia. For several years the company has continued to carry out innovation and improvisation activities to improve the efficiency of the company's performance. Therefore, in the process, several projects were carried out which were the responsibility of the ranks of managers at PT XYZ. To make the project effective and efficient, the researcher conducted an analysis of the implementation of project management by evaluating the use of project management tools and techniques and their effectiveness in supporting projects that are running in the PT XYZ organization. This was done by distributing questionnaires to stakeholders regarding projects that were

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carried out from 2017 to 2018. The expected results are PT. XYZ can determine the right project management tools and techniques based on the assessment of the application of project management tools and techniques and their effectiveness.

### *B. Problem Formulation*

Based on the background that has been described, the problems that are the subject of this research include:

1. How is the application of tools and techniques in project management that are used by stakeholders regarding projects implemented at PT. XYZ?
2. What factors cause the project management tools and techniques to be used at PT. XYZ?
3. How can project management tools and techniques be applied to PT. XYZ as a project management problem-solving solution?

### *C. Purpose*

The objectives of this study are as follows:

1. To find out the application of tools and techniques to project management that are used by stakeholders regarding projects implemented at PT. XYZ.
2. To find out the factors that influence the use of tools and techniques in project management.
3. To determine project management tools and techniques that can be implemented at PT. XYZ as a solution for solving project management problems.

### *D. Output*

This research is expected to provide benefits in determining suitable project management strategies to be implemented based on project management analysis at PT. XYZ.

## II. LITERATURE REVIEW

Specific empirical studies have been conducted which identified the most used tools, for example the work from [2], [9]. White and Fortune conducted a survey that was designed to determine the extent to which those involved in the management of projects actually make use of the methods and techniques that are available and how effective the methods and techniques used are felt to be [2]. The authors listed 44 methods, methodologies, tools and techniques and asked the respondents to indicate which had been used in the project being considered to participate in the survey. The options chosen to be included in the list were those found in a selection of standard text books of Project Management [6]. From an analysis of 236 participants White and Fortune found that the most commonly used tools identified were: 'off the shelf' software (77% of the respondents); Gantt charts (64%); and cost benefit analysis (37%).

A more recent questionnaire survey undertaken in 2004 by Besner and Hobbs [9] surveyed views of 70 tools and techniques, with 753 respondents. Besner and Hobbs found

that tools and techniques use levels varied considerably, from 1.4 to 4.1, based on a scale ranging from 1 (not used) to 5 (very extensive use). Table 1 lists the 70 tools and techniques included in Besner and Hobbs survey, in decreasing order by the level of usage, from top to bottom and left to right.

Besner and Hobbs [9] findings are consistent with the results from White and Fortune [2]. Although, Besner and Hobbs selected a larger number of tools and techniques, the 3 most used tools identified from White and Fortune are also in the top list of Besner and Hobbs.

Beyond the perceptions of the most used tools and techniques, Besner and Hobbs [9] also studied an interesting variable - the 'intrinsic value of tools', which is the combination of the extent of use of the tools and techniques and the perceived potential contributions to project performance (intrinsic value = present extent of use + potential improvement). For the research study described in this paper, the more relevant information is about the 'intrinsic value' as we are looking for the most useful PM practices. Table 2 lists, from Besner and Hobbs [9], the twenty tools and techniques with the highest 'intrinsic value', in decreasing order from top to bottom and the tools and techniques with the lowest intrinsic value, which were "discredited" by Besner and Hobbs [10] as respondents indicated that these tools were rarely used and were perceived as having very little potential.

## III. METHOD

### *A. Research Methodology*

The research methodology will explain what methodology is carried out in this study. The research methodology is further elaborated into three parts, namely the research approach, data collection methods, and data analysis methods.

#### *1) Research Approach Method*

In general, this research was conducted using the mix method approach. The mixed method is a step of research conducted by combining two forms of approaches in research, namely quantitative and qualitative approaches. According to Sugiyono, a mixed method is a research method by combining two research methods at the same time, qualitatively and quantitatively in research activity, so that they will gain more comprehensive, valid, reliable, and objective power. The application of the mixing method in this study was carried out by combining quantitative methods through questionnaires and qualitative methods, namely interviews.

#### *2) Data Collection Methode*

In this study, data, and information needed in general consist of primary data and secondary data. Primary data is data that is obtained or collected directly in the field by people who conduct research or those who need it, while secondary data is data obtained through intermediary or

indirect media. The following will be further elaborated on the method of data collection carried out in this study.

**B. Primary Data**

**1) Interview**

Interviews are ways of collecting data by communicating and face to face directly through a question and answer process verbally to respondents selected as samples. Interviews are carried out on stakeholders who hold the project in full, namely managers and senior managers with a total of 30 people.

In conducting the interview, it will provide an introduction to the study, each interview begins with an introduction to the researcher's personal background, research objectives, and definitions of several terms used in the study (eg project management tools and techniques, and project management performance).

**2) Questionnaire**

In research that will be carried out questionnaires by census method based on the provisions stated by Sugiyono "saturated sampling is a technique of determining the sample if all members of the population are used as samples. Another term for saturated samples is census ". The sample is part of the number of characteristics possessed by a population to be studied. The number of samples in this study was 30 people consisting of senior managers, managers, and departments responsible for implementing the project at PT XYZ.

**C. Secondary Data**

**1) Study of Literature**

A literature study is a method used to collect data or sources related to the topic raised in the study. The selection of the most diverse tools and techniques is based on journal references and studies published by authors such as [1], [9], [11], [12], although articles by Besner and Hobbs are the basis for this study.

Data analysis carried out and qualitative types related to the study were carried out based on [13] who conducted questionnaire distribution on companies or private organizations in the protagonist to find out the implementation of the use of project management tools and techniques. The section of the questionnaire consists of:

1. Project Initiation
2. Project Planning
3. Project Execution
4. Project Monitoring and Control
5. Project Closure

**IV. RESULTS AND DISCUSSION**

In this study, questionnaires were distributed to 30 respondents involved in project management at PT XYZ. The researcher carried out the respondent's data on (gender type, age, education, work experience, and managed costs). From the results of the distribution of the questionnaire, it was found that percent of respondents 76.7% were male.

Most (30-39 years) respondents are aged 30 to 39 years. Education level was dominated by S1 with a percentage of 33.3%. From the overall experience of the respondents is 1-3 years as many as 26.7%. and from the amount of project costs that they manage to get the most respondents data is 500 Million - 1 Billion with a percentage of 33.3%.

From the data obtained, the researcher draws conclusions about the dominance of the contribution of using project management tools and techniques are those aged 26-29 years with work experience of 10-12 years at PT XYZ (Figure 1).

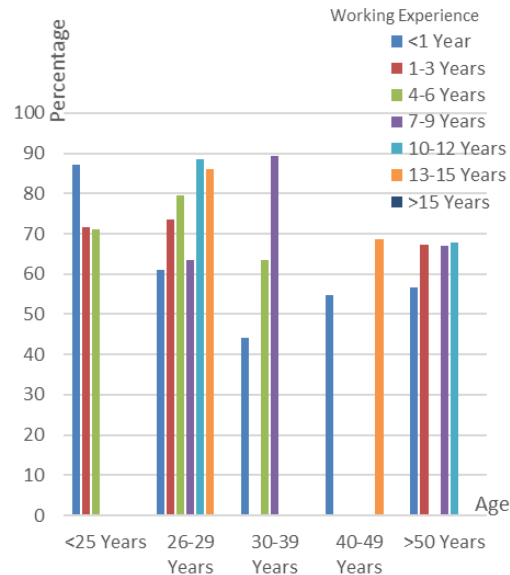


Figure 1. Age distribution of respondents by years of experience; (b) Age distribution of respondents by current

From the data above, the researchers conducted a grouping of data that influenced the use of project management tools and techniques namely the Coordinator and they were the people who managed the project costs between 100 million to 500 million rupiah.

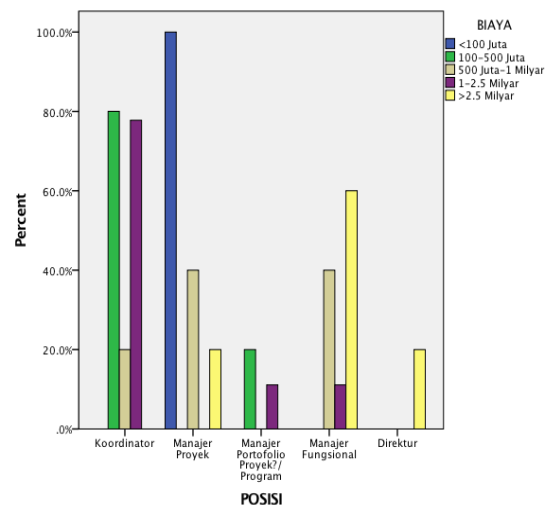


Figure 2. Graph data on the results of using project management tools and techniques

In order to study how the PT XYZ used the tools and techniques and whether there was any relationship between the characteristics of respondents and the tools and techniques selection, a further analysis was done. Firstly, a pre-processing of the variable “frequency of use” was done by data recoding. According to Saunders [14], the main purpose of recoding data, is to obtain new variables that are more straightforward, without losing the meaning of the questions. Taking this into consideration, three categories of answers were considered to analysis: (1) less used (“never” and “rarely” were clustered); (2) occasionally and (3) more used (“often” and “always” were clustered). According to the percentage of obtained answerers on the “often” and “always” categories, the tools and techniques were ranked by usage descending order (Table 1).

TABLE 1.  
COMPARISON STUDIES OF THE MOST USED TOOLS AND TECHNIQUES

Project Management Tools and Techniques	This Research	Gabriel Fernandes	Besner dan Hobbs
Progress Report	1	1	2
Activity List	2	12	15
Project Charter	3	20	-
Kick of Meeting	4	6	5
Re-baselining	5	31	-

Results showed that the twenty most used tools and techniques were related to: (1) Progress Report, (2)Activity List (3) Project Charter, (4) Kick Of Meeting, (5) Rebaseline,. This shows similarities with several previous studies, although there are differences but not significant.

The influence of respondents' characteristics (age, gender, work experience, education level, position, and managed costs) on the selection of tools and techniques was also analyzed. The results show evidence that the managed position and costs affect the use of 78 analyzed tools and techniques.

Tests for the significance of sex factors were performed using the Mann-Whitney test statistics. while in other groups using Kruskal wallis (Table 2). these factors will have a significant effect if the p-value (Asymp. Sig.) is less than Alpha (0.05).

TABLE 2.  
KRUSKAL-WALLIS TESTS BY CHARACTERISTICS OF THE RESPONDENTS

Characteristic of Respondents	Kruskal-Wallis (p= Average Asymp. Sig.)
Gender	p= 0.570 (p<0.05)
Age	p= 0.185 (p<0.05)
Education	p= 0.185 (p<0.05)
Working Experience	p= 0.077 (p<0.05)
Position	p= 0.037 (p<0.05)
Costs Managed	p= 0.010 (p<0.05)

The result above, which has been verified by several interview respondents in the initial stages of the study, it has the similarity that each stakeholder at PT XYZ uses the stages in general, from project charter, gann chart, progress report and project closure in the project implementation process. Based on the literature that researchers say that can take a standard or procedure for PT XYZ using tools and techniques that are delivered [9].

V. CONCLUSION

In this research, it can be concluded that the project management tools and techniques that are often used by PT XYZ are Progress Report, (2)Activity List (3) Project Charter, (4) Kick Of Meeting, (5) Rebaseline, (6) Gantt Chart, (7) Software PM for Estimating, (8) Rank Risk . And the things that affect the use of project management tools and techniques are the factors of experience and costs managed.

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