

## CHAPTER I PRELIMINARY

### 1.1 Background

The application of smart technology must be undertaken to achieve innovative learning and challenge of the era industrial revolution 4.0. It encourages many educational institutions use e-learning to improve quality of learning. Around the mid-1800s e-learning began to be applied by the world community, especially in the United States, French, and some other European countries (Sudin, 2014). However, in Indonesia is very far behind in the utilization of e-learning as media of learning. Actually, there are many advantages gained from e-learning such as time and cost more efficient because it is available 24 hours, lessons are easier to understand, and learning is more effective.

Telkom University especially at the faculty of Industrial Engineering has applied the concept of e-learning in several courses. However, some courses have not applied e-learning, one of them is Project Management course. Project Management course is a mandatory course that must be taken by industrial engineering students at 7<sup>th</sup> semester. Why project management course? Because the project management course exams are not open book while other theoretical lessons are open book. Therefore, the amount of material make students difficult in understanding project management materials.

Getting a high score on the Project Management course is the expectation of all students. However, based on a survey to 58 respondents of industrial engineering students of generation 2013 and 2014 there are obstacles experiences by students in understanding the course of Project Management. The following is the survey data of the questionnaire results on the obstacles of the project management course:

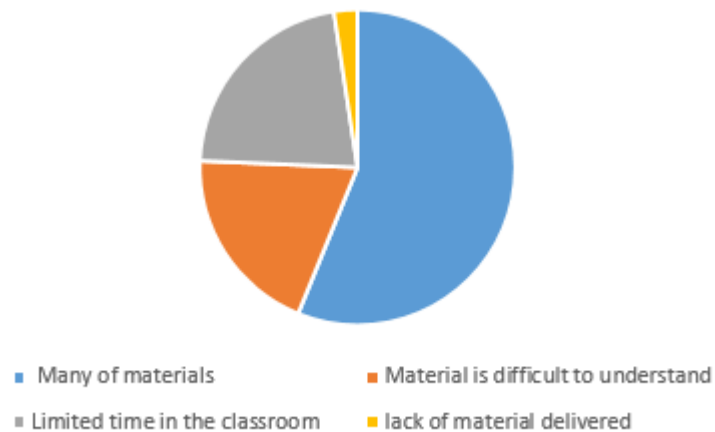


Figure I. 1 Reasons for not Agreeing to Classroom Meetings

Based on the results of questionnaires survey to students of Industrial Engineering in 2013 and 2014, the biggest obstacle experienced is too much material with a percentage of 39.7%. Based on FRI curriculum books, the project management course consists of many chapters and must be finished in 14 meetings, it is necessary to have independent learning.

The Project Management course learns the steps that need to be done in working on a project from a stage of initiating, planning, executing, monitoring, controlling, and closing the work of a team to achieve a specified goals at the specified time. According to (PMI, 2017). Project Management consist of 10 knowledge areas are as follows:

1. Project Integration Management
2. Project Scope Management
3. Project Schedule Management
4. Project Cost Management
5. Project Quality Management
6. Project Resource Management
7. Project Communications Management
8. Project Risk Management
9. Project Procurement Management
10. Project Stakeholder Management

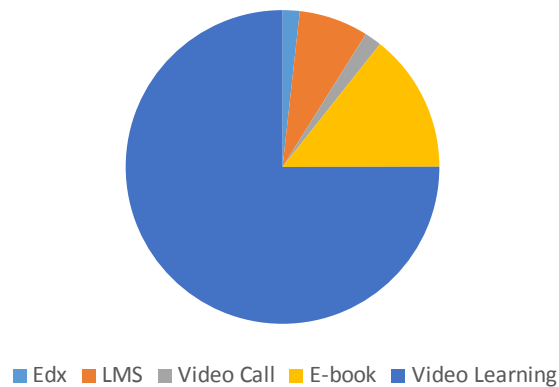


Figure I. 2 Media that Supports E-Learning

Based on a questionnaire survey to Industrial Engineering students generation 2013 and 2014 good media used to utilize e-learning is a video. The design of E-learning will be successful if supported by the design of good e-learning content. In the implementation of video learning of course through the utilization of internet connection. This video learning will help students who want to learn the science of Project Management in more detail just by accessing this video on Youtube. With the video learning, students get additional knowledge that is not explained in the classroom because of the limited time.

Considering the design of e-learning content is very important because it affects the level of understanding of students to project management course. The author tested the design of e-learning content at the procurement knowledge area of Project Management. Why at the procurement knowledge area? Because based on project management books written by Rita, the hardest knowledge is as follows:

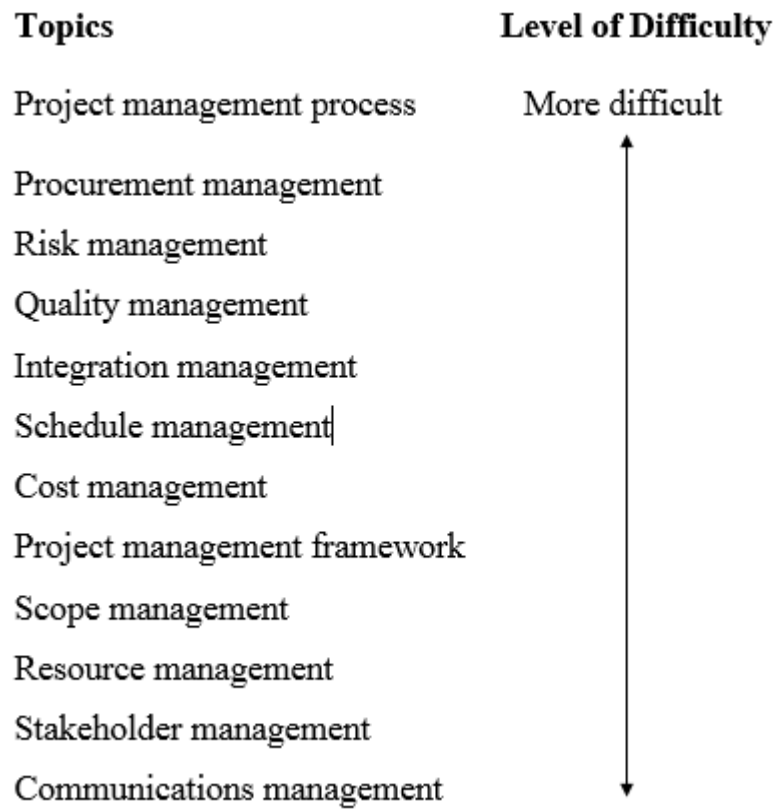


Figure I. 3 The Project Management knowledge area is Difficult to Understand  
(Rita, et al., 2018)

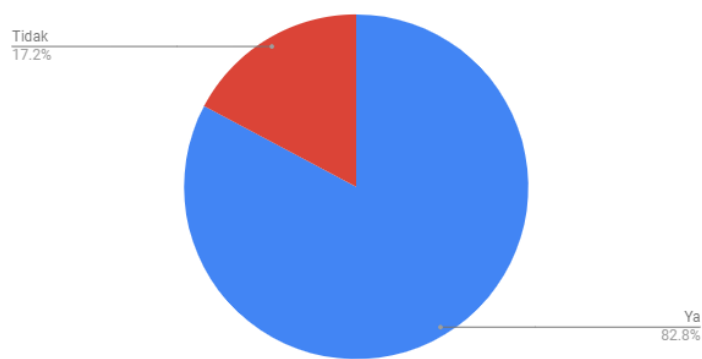


Figure I. 4 The Need for E-Learning

Based on project management books written by Rita, the hardest knowledge is the procurement knowledge area (Rita, et al., 2018). Project procurement management is a process required from outside the project team to buy or obtain

services, products, or results. Project procurement management is a process that involves an agreement between two parties: buyers and sellers (PMI, 2017). Effective and efficient procurement will have an impact on the project to keep under the budget. Based on a questionnaire survey, most students need additional media such as video to understanding the course of Project Management.

The first step that needs to be done before making a video learning is to make a project management plan. Planning needs to be done first, before developing e-learning content. The Planning Process Planning Group is the processes that define the total scope of the effort, define and refine the objectives, and develop the actions necessary to achieve those goals (PMI, 2017). Planning can maintain the project under control and help everyone to participate in right and an ordered way (Roberts, 2011).

The witer used design sprint method to design the e-learning content at the project procurement knowledge. Design sprint is needed for generates idea from team member to developing e-learning content. Design sprint is a method to build concept of product and prototype through 5 stages in 5 days. The general problems need to be known first, before starting to design sprint. Design sprint is useful when the risk of failure wants to reduce, get efficiency, align the project team, and build the initial process (Banfield, Lambardo, & Wax, 2015). Design sprint is the same as the agile development because team members of project can quickly change direction and respond to needs (Ries, 2011).

The agile development process means an incremental work process that promotes the importance of costumer satisfaction, collaboration, communication, teamwork, good quality and planned follow-up practices. There are three main types of benefits from agile techniques: reducing risk, improving control, and improving communications (Aguanno, 2005).

Because of need for video learning, the writer takes the final project proposal with the title of designing mini project master plan for developing e-learning content in project management course (Case Study: Project Procurement Knowledge) with the purposed that students easily understand about procurement in Project Management course. The writer want to give test and see the result to

make sure this video learning helpful student to learn Project Management course. In the last, the writer will evaluated for before and after using e-learning content in project management course to look students performance.

### **1.2 Formulation of the Problem**

The problem formulated in this final project proposal is how to designing and implementing mini project master plan for developing e-learning content in Project Management course at the project procurement knowledge using design sprint method?

### **1.3 Purpose**

The objective in this final project proposal is to designing and implementing mini project master plan for developing e-learning content in Project Management course at the procurement knowledge using design sprint method.

### **1.4 Scope of Problem**

Scope of problem used in this final project proposal are:

1. Implementation of e-learning content only for Project Management course in Industrial Engineering at Telkom University
2. The survey through questionnaires to find the problem is only given to industrial engineering students of generation 2013 to 2014 who have taken the Project Management course
3. Implementation of this video only as a supporting media in Project Management course.
4. Implementation of this video is only for project procurement management knowledge area in Project Management course.
5. The method used in this research is design sprint.
6. The target user for test validation is students who have taken project management courses.

### **1.5 Benefit of Research**

The benefits that can be given from this final assignment proposal are:

1. Increasing the desire of students to study Project Management course without meeting directly with the lecturer

2. Facilitate the students to understand the project procurement management knowledge area of Project Management course in accordance with the lessons that have been delivered by lecturers.
3. Increase the understanding of students on the project procurement management knowledge area of the Project Management course.

## **1.6 Research Systematic**

This research is prepared using the following systematics:

### **CHAPTER I PRELIMINARY**

In this section contains the background of the problems that occurred in Industrial Engineering faculty at Telkom University. The problem is complemented by the supporting data obtained from the questionnaire survey to students of generation 2013 and 2014 who have taken the Project Management course. In the preliminary also contains the formulation of the problem, research objectives, research benefits, scope of research, and systematic of research.

### **CHAPTER II LITERATURE REVIEW**

Literature review contains the supporting literature required in the conduct of research. The writer explained theories, findings, and other research material obtained from the reference material to be the basic of research activities from the formulation of the problem to be studied. In this case, the writer explains the theory of project, project management, project procurement, e-learning, design sprint.

### **CHAPTER III RESEARCH METHODOLOGY**

This section describes the concepts of research and systematic problem solving. In the design of e-learning content, for the results in accordance with the expected goals, then the required conceptual model in this study. And in this section there is also a systematic problem solving which is a sequence of steps used by researcher from the beginning of the study to the conclusions of the study.

### **CHAPTER IV DATA COLLECTION AND PROCESSING**

This section contains data that has been collected from the results of the questionnaire. This questionnaire distributed to Telkom university students of generation 2013 and 2014 who have taken Project Management courses. The data

has been collected will be processed so as to produce the appropriate data to be material at the analysis phase.

#### **CHAPTER V ANALYSIS**

This section contains the analysis of data processing and data processing results that used for conclusion in the final stage. Analysis is an activity to explained the data in more detail. Analysis is needed because it makes easier for readers to understand data processed by the writer.

#### **CHAPTER VI CONCLUSIONS AND SUGGESTIONS**

This section contains conclusions which is a short statement from the writer about the results of the description analysis obtained from the results of research that has been done. In conclusion section will be known about the success of designing e-learning content to student performance. In this section there is also a suggestion which is the author's expression to be given to others to make them better. Suggestions to be submitted to the Faculty of Industrial Engineering at Telkom University and next researcher.