

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

In first chapter discussed about the main area of research. Contents of this chapter consist of the following sections: background of study, research problem, research questions, research objectives, scope of study, significance of study, definitions of key term, and organization of thesis.

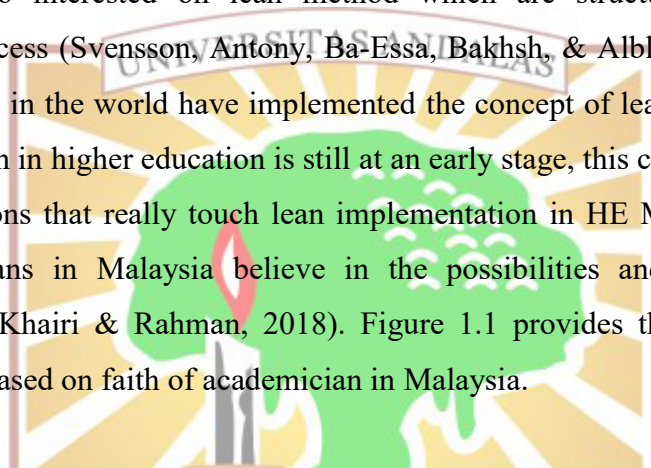
### 1.2 Background of Study

Higher Education Institutions (HEIs) operating in Malaysia are responsible for Malaysia's higher education sector and in the authority of the Ministry of Higher Education (MOHE). The largest national higher education development budget is a sign of Malaysia's concern to education. In Malaysia there is unity of university that called as technical university of Malaysia. Technical University College Network of Malaysia (TUCN Malaysia) was established on March, 2006. On February 2007, TUCN had changed to Malaysian Technical University Network (MTUN). MTUN consists of four universities that are Universiti Tun Hussein Malaysia (UTHM), Universiti Malaysia Perlis (UniMAP), Universiti Teknikal Malaysia Melaka (UTeM), Universiti Malaysia Pahang (UMP) (Arzani, 2013).

At the twenty-first century, the university in the world including Malaysia face up to the challenges related to efficiency, effectiveness, quality, accountability, transparency, and flexibility. The development indicators of the university are the scientific achievement and educational excellence with the support of an efficient management system. HEIs make use of concepts and methods of business-sector

management. Nonetheless, questions are asked about the degree to which universities can follow the approach of business without compromising basic principle and value or which management theory is appropriate for a particular universities (Maciag, 2019).

In increasing competition for the most difficult financial problems, it encourages universities to redesign business processes. Redesign business processes are often carried out to save administrative costs and improve the services which are provided for students, industry colleagues, lecturers, and researchers. Universities are working more and more to improve business processes. To improve the business processes, the university is also interested on lean method which are structured parts for the improvement process (Svensson, Antony, Ba-Essa, Bakhsh, & Albliwi, 2015). Several higher educations in the world have implemented the concept of lean. In Malaysia, the application of lean in higher education is still at an early stage, this can be seen from the lack of publications that really touch lean implementation in HE Malaysia. However, many academicians in Malaysia believe in the possibilities and benefits of lean implementation (Khairi & Rahman, 2018). Figure 1.1 provides the benefits of lean implementation based on faith of academician in Malaysia.



**Benefits of Lean Implementation**

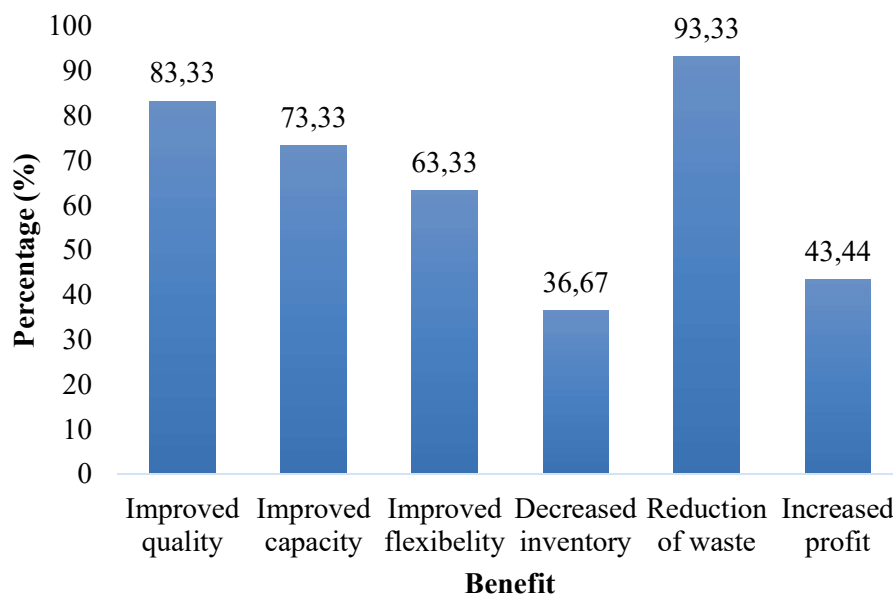


Figure 1. 1 Benefits of Lean Implementation  
Source: Khairi and Rahman (2018)

Nowadays, a number of issues of lean implementation are emerging. The issues include the limitations of experiences and knowledge towards implementing lean, failure to recognized problem or issue which lean is a suitable to build, inadequate documentation, inappropriate measures and practices, lack of skill and talent utilization, lack of standardization, departmental policies, and lack of data-based management system. Lean principles implementing at Malaysia's higher education have not well-explored. It is caused because in the universities at developing countries, there is a lack of investigations of the successful lean implementation (Nawanir, Binalialhadj, Lim, & Ahmad, 2019). This thesis research in line with the issues and problems highlighted the previous literature. In connection with Sinar Harian (2019) stated that Universiti Malaysia Pahang as one of MTUN universities should study and improve university achievement from various perspectives. UMP will continue to move forward as a global player to achieve the mission and vision that has been set and is at the best foundation as a university of MTUN. Therefore, this study attempts to highlight the lean practices or implementation in one of Malaysia's higher education. The title is "Lean Enablers and Its Implications on Lean Implementation in a Universiti Malaysia Pahang".

### **1.3 Research Problem**

Over the past 15 years, lean in higher education has been known to provide potential in improving higher education and its support services. Around the world, the achievement of successful initiative of lean in higher education has been experienced by colleges and universities which can be seen from institutions (Balzer, Francis, Krehbiel, & Shea, 2016). It is can be seen at document relating to the conceptualization and implementation lean in academic journals, technical reports, conference publications, and others.

Although higher education or universities have encountered lean initiative, there are still many issues related to lean implementation. Based on Montgomery (2017) in Nawanir et al. (2019), the issues that are faced related to the application of lean in universities is about lack of investigate in successful lean implementation such as lack of experience and knowledge toward implementing lean, failure to recognize problems,

inappropriate practices and measure, lack of standardization, inappropriate documentation, lack of skills and talents utilization, departmental policies, and lack of data driven by management system. Furthermore, the implementation of lean principles did not explore well beside lack of research on the positive lean implementation in developing country universities (Nawanir et al., 2019). Lean implementation is mostly exported by developed countries as containing in the following article: the lean journey for Dutch higher education institutions (Kamp, 2017), creating a lean university in US and UK (Hines & Lethbridge, 2008), becoming a lean university in St Andrews (Robinson & Yorkstone, 2014), analysis of lean implementation in UK business schools and universities (Radnor & Bucci, 2011), and much more.

A research about lean implementation in Malaysia with the object of research was the academicians of Engineering Faculty at International Islamic University Malaysia found some challenges. The challenges in lean implementation are presented in Figure 1.2.

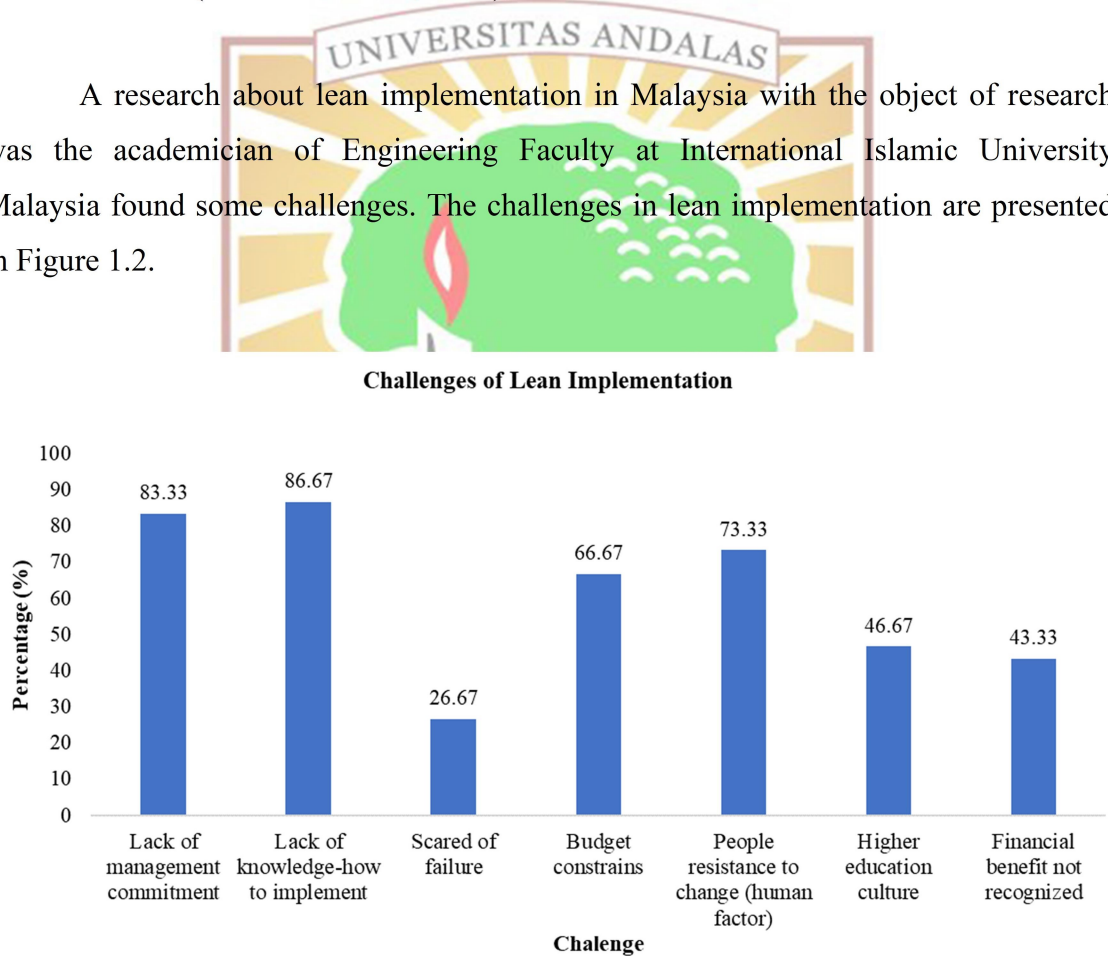


Figure 1.2 Challenges of Lean Implementation in Higher Education of Malaysia  
Source: Khairi & Rahman (2018)

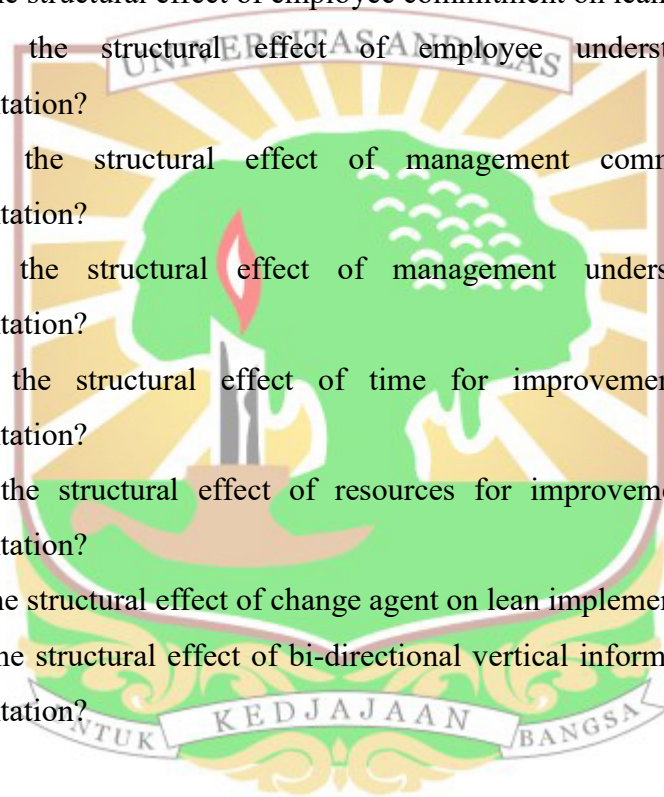
This study seeks to cover the issues about lean implementation are faced by higher education today especially in Malaysia. This study also tried to explore lean implementation in universities from developing countries such as Malaysia. It was

hoped that the study's findings can overcome emerging issues and can be used to improve existing problems about lean implementation in universities or higher education.

#### **1.4 Research Questions**

In generally, the research question of this study is "What is the effect of lean enablers on lean implementation in a technical university in Malaysia?" But in specifically the research questions of this thesis consist of:

1. What is the structural effect of employee training on lean implementation?
2. What is the structural effect of employee commitment on lean implementation?
3. What is the structural effect of employee understanding on lean implementation?
4. What is the structural effect of management commitment on lean implementation?
5. What is the structural effect of management understanding on lean implementation?
6. What is the structural effect of time for improvement work on lean implementation?
7. What is the structural effect of resources for improvement work on lean implementation?
8. What is the structural effect of change agent on lean implementation?
9. What is the structural effect of bi-directional vertical information flow on lean implementation?



#### **1.5 Research Objectives**

According to research questions so the research objective of this thesis in generally is to investigate the effect of lean enablers on lean implementation in University Malaysia Pahang. Specifically, research objectives are:

1. To examine the structural effect of employee training on lean implementation?
2. To examine the structural effect of employee commitment on lean implementation?

3. To examine the structural effect of employee understanding on lean implementation?
4. To examine the structural effect of management commitment on lean implementation?
5. To examine the structural effect of management understanding on lean implementation?
6. To examine the structural effect of time for improvement work on lean implementation?
7. To examine the structural effect of resources for improvement work on lean implementation?
8. To examine the structural effect of change agent on lean implementation?
9. To examine the structural effect of bi-directional vertical information flow on lean implementation?

## 1.6 Scope of Study

This thesis had some scope of study that included of the context, the variables, and also the focus this research. Context of this study was lean implementation in a technical university in Malaysia, especially did in Universiti Malaysia Pahang (UMP) at Gambang, Pahang, Malaysia. UMP Gambang selected because UMP Gambang have the largest population from UMP Pekan based on the number of students and academic staffs. Besides that, some academics also do activities not only in Gambang but also in Pekan. And then UMP Gambang is also a centre of activity because it has complete facilities. Therefore, to save time, money and energy, the UMP Gambang was chosen as the context in this study. This study had two variables that were lean practice as dependent variable and independent variables consisting of employee training, employee commitment, employee understanding, management commitment, management understanding, time for improvement work, resources for improvement work, change agent, and bi-directional information flow. Lastly this study more focus in lean implementation, not tool and technique for lean.

## 1.7 Significance of Study

The findings of this study would redound to theoretical and practical significance of study. The research had two theoretical significance of study. First, to added to body of knowledge. This study added the research about the principle of implementing lean at the university. According to Khairi and Rahman (2018), several academic papers have been reported in Malaysia to support the advantages of lean in the manufacturing and industrial sectors, but surprisingly less focus has been paid to the likelihood of achieving advantages if implementing lean in university. Therefore, this study increased the empirical evidence reported in the literature about implementing lean in the university. Second, to provided direction and basic for future research in lean university and related topics. The related topic that could be develop by this research is like the lean enablers, the lean implementation, improvement university, and others. For example, there is literature review about lean enabler in construction project (Bayhan, Demirkesen, & Jayamanne, 2019), but lack discussed about enabler lean implementation in university.

In the same way, this research had three practical significance of study. First, gave suggestion to university on their effort to eliminate waste in their operation. The operations could create waste can occurred in teaching, research, administration, and management. Second, gave insight on how to implemented lean in university. In this study, the university can implement lean related to several ways such as waste identification, work standardization, level and work balance workloads, built in quality, pull system, multifunctional employees, and continuous improvement. And the last one is provided information about important enablers for lean adaption in university. This research provided consideration of the importance and relationship of enablers. This enabler consists of employee training, employee commitment, employee understanding, management commitment, management understanding, time for improvement work, resources for improvement work, change agent, and bi-directional vertical information flow.

## 1.8 Definitions of Key Term

In this research using some key terms. The definition of each key term are as follows:

### 1. Bi-directional Vertical Information Flow

Bi-directional information flow is the communication process in which there is reciprocity (feedback) or response when the message is taken by the source or message provider to the recipient of the message (Iddrisu & Mphil, 2018).

### 2. Change Agent

Change agents play a role in disseminating lean information, fostering lean culture, tracking and mentoring workers during the introduction of lean production system (Nordin & Belal, 2017).

### 3. Employee Commitment

Employee commitment is employee relations with the organization in accordance with psychological conditions that influence the decision to proceed membership in the organization (Andrew, 2017).

### 4. Employee Training

Employee training is the processes of increasing the skills and knowledge of employees to allow them to effectively do their jobs (Cohen, 2019).

### 5. Employee Understanding

According to Cambridge Dictionary, employee understanding is employee knowledge about their job, the condition in the workplace, etc, and how to do their work properly.

### 6. Management Commitment

Management commitment can be demonstrated in various ways, including development vision clearly, make sure adequate resources in financial, and provide leadership strategic (Alefari, Salonitis, & Xu, 2017).

### 7. Management Understanding



According to Cambridge Dictionary, employee understanding is employee knowledge about their job, the condition in the workplace, their responsibilities, etc, and how to do their work properly.

8. Enabler

Enabler is something that gives a better views of the support structure for lean so that successful adoption has increasingly and be important consideration (Malmbrandt & Ahlstrom, 2013).

9. Lean

Lean is about continuous improvements for work that leads to unproductive results or “waste” that must be systematically identified (Robinson & Yorkstone, 2014; Arthur, 2007).

10. Lean implementation

The implementing of lean leads for a contribution of power to the sequence of phase that leads to excellence of operational and the continuous improvement through the eliminating non value added activities (Munteanu & Stefaniga, 2018).

11. Resources for Improvement Work

Each part of the company must be available and willing to adjust such as resources, so that efforts to improve the system or lean implementation could be affective and successful (Plainview LeanKit, 2019).

12. Time for Improvement Work

Improvement in lean organizations is a daily mindset and practice, enabling organizations to deliver on their promises to their customers (Plainview LeanKit, 2019).

## 1.9 Organization of Thesis

In writing this thesis must be accordance to the following systematics:

#### Chapter 1: Introduction

In this chapter the main area of research was discussed. The contents of this chapter consist of the following sections: background of study, research problem, research questions, research objectives, scope of study, significance of study, definitions of key term, and organization of thesis.

#### Chapter 2: Literature Review

This chapter contained literatures and theories related about research topic. Literature review could be obtained from books, articles, and other relevant research sources. The literature review included higher education in Malaysia, lean concept, lean implementation in various sector, lean enablers, practices lean implementation, framework, and hypotheses development. This chapter ended by summary of chapter.

#### Chapter 3: Methodology

Methodology chapter described the methods and techniques or special procedures are used in the research. This chapter also explained the actions that must be taken to investigated the research problem, answered the research questions, and achieved the research objectives. Methodology chapter consist of research design type, measurement item, sampling technique, and analysis of data.

#### Chapter 4: Result and Research Findings

This chapter will discuss about the result and findings in detail. The processes and results of data analysis or outcome of the questionnaire will be shown in this chapter. SmartPLS3.2.8 was used as an analysis tool. The result is presented briefly, densely, and precisely using non textual elements appropriately, such as figures and tables. The research objective can be achieved by the findings and result of data analysis

#### Chapter 5: Conclusion

This chapter contains the summarizing the finding of data analysis in order to answered the three research objectives that have been set earlier in Chapter 1. Besides that, this chapter also revealed about the implication of study. The limitations of this study provided by this chapter, and will discuss the recommendation for future study to

overcome the limitations. And the last one, this chapter also provided the summary and conclusion about this study.



