

PRODUCTIVITY IMPROVEMENT IN  
MANUFACTURING INDUSTRY

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**PRODUCTIVITY IMPROVEMENT IN MANUFACTURING  
INDUSTRY**

This report submitted in accordance with requirement of the Universiti Teknikal  
Malaysia Melaka (UTeM) for the Bachelor Degree of Manufacturing Engineering  
(Manufacturing Management) (Hons.)

by

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# UNIVERSITI TEKNIKAL MALAYSIA MELAKA

## BORANG PENGESAHAN STATUS LAPORAN PROJEK SARJANA MUDA

TAJUK: Productivity Improvement In Manufacturing Industry

SESI PENGAJIAN: 2011/12 Semester 2

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I hereby, declared this report entitled “Productivity Improvement In Manufacturing Industry” is the results of my own research except as cited in references.

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Date : .....

## **APPROVAL**

This report is submitted to the Faculty of Manufacturing Engineering of UTeM as a partial fulfillment of the requirements for the degree of Bachelor of Manufacturing Engineering (Manufacturing Management) (Hons.). The member of the supervisory committee is as follow:

.....

(Official Stamp of Principal Supervisor)

## **ABSTRAK**

Satu kajian telah dijalankan di Jati Beringin Sdn. Bhd untuk megkaji bagaimana organisasi tempat kerja yang baik boleh meyumbang kepada peningkatan produktiviti dengan cara melaksanakan program 5S. Objektif kajian ini adalah untuk membuat pemerhatian terhadap keadaan semasa ruang kerja syarikat dan kemudian memberi pendedahan kepada syarikat untuk bersama-sama melaksanakan program 5S dan kemudiannya menganalisis peningkatan produktiviti sebelum dan selepas program 5S dilaksanakan. Terdapat banyak sumber-sumber penyelidikan telah dianalisa untuk memahami lebih lanjut tentang pengertian 5S yang diambil dari sumber-sumber seperti dari buku, jurnal dan juga internet. Terdapat tiga fasa metodologi yang perlu di ambil perhatian untuk melancarkan lagi kajian ini. Di samping itu, aktiviti berkumpul yang menjurus kepada penyumbangan buah fikiran di antara kakitangan pekerja dan juga pihak atasan amatlah perlu supaya mereka lebih jelas tentang 5S. Syarikat telah melancarkan program 5S sejurus selepas semua kakitangan pekerja memahami konsep 5S. Oleh itu, dengan kerjasama dan penglibatan pekerja dalam melaksanakan program 5S ini diharapkan dapat menyumbang kepada peningkatan produktiviti syarikat. Selepas 5S program telah dilaksanakan, ianya didapati memberi kepentingan kepada syarikat dari segi susun atur peralatan dengan lebih baik, kebersihan, membuat penjadualan dan juga memastikan 5S ini dijalankan secara berterusan di tempat kerja. Oleh sebab ini, 5S telah memberi penambahbaikkkan kepada produktiviti syarikat dan terbukti bahawa pekerja lebih berpuas hati dan selesa bekerja dengan persekitaran yang baru di Maintenance Zone.

## **ABSTRACT**

This case study has been carried out at Jati Beringin Sdn. Bhd about how well workplace organization can improve company productivity by implementing 5S program to company. Company discovered that shop floor of Maintenance Zone is disorganized and it is found that employee experienced difficulties find the mold part at mold rack. The objectives of this study are to identify current state of company and then approach them to implement 5S to their workplace organizations followed with analyze the productivity improvement result before and after implementing 5S. A lot of research has been analyzed to figure out the concept of 5S pillars from the sources such as from books, journal, and also internet. This study also comprises of three phase to be conducted as methodology to smoothly run this study. In addition, brainstorming was held between top management and employees to explain them background of 5S pillars. After everyone fully understand 5S program, company launched 5S program to their shop floor. Everybody in company was compulsory participated and give cooperation and effort accomplished this study to improve company productivity. As 5S program was implemented at Maintenance Zone, it is found that, this tool and technique has bring significant to company in terms of better arranged and organized tools, cleanliness, developed the schedule and maintained continuously the 5S at the shop floor. Towards this, it improves company productivity and resulting employee more satisfied and comfortable working with new environment at Maintenance Zone.



## **DEDICATION**

***For my beloved father and mother***

***Hanifi Bin Hussin***

***Bidah Binti Mamat***

***For my supportive siblings***

***Hamir Bin Hanifi***

***Helmi Bin Hanifi***

***Hayri Bin Hanifi***

***Haswani Binti Hanifi***

***For my lovely heart***

***Hirmanto Bin Suib***

***And all my treasured friends***

***BMFU***

***Thank you very much for all your support***

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## **LIST OF ABBREVIATION, SYMBOLS AND NOMENCLATURE**

TPM	- Total Productive Maintenance
JBSB	- Jati Beringin Sdn. Bhd
UTeM	- University Teknikal Malaysia Melaka
PSM	- Projek Sarjana Muda
FYP	- Final Year Project
SOP	- Standard Operation Procedure
TNB	- Tenaga Nasional Berhad
TM	- Telekom
min	- Minute

# **CHAPTER 1**

## **INTRODUCTION**

Chapter 1 will provides information on background of study, problem statement, and study requirement. Study requirement will cover on objectives and study question of this study. This chapter also enlightens about scope of study, potential benefit to be carried out from this report and also conduct report organization very well.

### **1.1 Background of study**

Every manufacturing industry needs a plan to improve and achieve its business goals and successfully compete for customer. Customer is expecting for a higher quality at lower price and with better services. With great operation, planned production and good quality product will improve productivity yet, enhance management development. That is how the process underlying with production management will produce the valuable product.

Productivity is the value of outputs (services and products) produced divided by the values of input resources (wages and cost of equipment). Furthermore, productivity at the same time is seen as one of the most vital factors that affecting the manufacturing industry competitiveness, efficiency and frequently among others. It is strongly affected the prices a company pays for their inputs and receive for its inputs. Many people sometimes misunderstood about the term of productivity because they keep discussing the general issue of performance. However, increasing productivity is important in operation because it can performed the high quality operation means it flawed services. In addition, with fast operation, company able to

reduce the level on in process inventory as well as reducing overhead. (Krajewski, L. *et al.*, 2006)

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

Meanwhile, productivity improvement well defined if we relate it with activity that performed by cross-functional project team such as production of engineers, maintenance personnel and also operators. On the other hands, productivity improvement also means a basic measure of performance for economies, industries, firms and processes. It is difficult in determining the problem in increasing productivity of manufacturing. If they conduct properly how they manage their management, by applying all the tools and techniques in company, it will enhance their productivity as well.

For example, applying Total Productive Maintenance (TPM) will increasing production and at the same time enhance employee morale and job satisfaction also will be evaluated. This is because, TPM is one of tools and techniques that a set of activities that prevents defects and breakdowns thus eliminating the need for equipment adjustment. TPM brings maintenance into focus as a necessary and vitally important part of the manufacturing. It is no longer regarded as a non-profit activity. Down time for maintenance is scheduled as a part of the manufacturing day and, in some cases, as an integral part of the manufacturing process. The goal is to hold emergency and unscheduled maintenance to a minimum to approach productivity. By applying TPM all team member from top management to down management will cooperate together to improve productivity. (Gopalakrishnan, N., 2010)

Productivity improvement also can be achieved if we create our workplace in a good condition. It is important to keep our environment of workplace in safer, clean and also organize. In manufacturing, employees keep searching for their misplaced tooling and components. Sometimes, workers are having difficulties spending time to looking for work in process of incomplete orders and nonconforming product that mixed with good parts and inadvertently sent to customers thus, adding more

wastage such as increase defects, waiting from continue of work and disturbing inventory. As waste is reduced, quality improves, production times are reduced and cost is minimized hence improve the productivity.

## **1.2 Problem statement**

Jati Beringin Sdn. Bhd (JBSB) was discovered to have disorganized mold rack at their Maintenance Zone. Management concentrates only on the output without giving adequate consideration to how the workplace is organized. Since the company is not practicing the 5S tool and technique, thus it is found that workers faced difficulties in finding the mold part and their shop floor was in messy condition. Furthermore, it is notice that they not outlined their pathway and too many stuff on walking and transport path. This will lead production moves slow and dangerous for worker to do job thus effect their job efficiency.

## **1.3 Study requirement**

As to create well organized shop floor at company, it is compulsory to seek solution to the problem statement mentioned before. This section computes objectives of study and several questions that being investigate related to problem encountered.

### **1.3.1 Objectives**

1. To identify current state of workplace organization
2. To implement 5S at workplace organization
3. To analyze the productivity improvement after implement 5S

### **1.3.2 Study questions**

Here are a few questions that will be counted to embark on the report. Questions that will be evaluated are:

1. Who were involved to ensure the success of implement 5S in this company?
2. Is implement 5S that have been evaluate bring significance to company?
3. How can we sure this tools and technique may increase productivity improvement to company?

### **1.4 Scope of study**

This research studied about the productivity improvement with selected appropriate tools which was applied at workplace organization of Jati Beringin Sdn. Bhd Company. The tool and technique that has been chosen is the 5S pillars.

### **1.5 Potential benefits**

The study of this report purposed to explain the implementation of 5S pillars as a tools and techniques to improve productivity of industries. With a research about this study may give a potential benefits and guiding among these parties:

a. University

The study of 5S pillars will be recorded in report and preserved in library of University Teknikal Malaysia Melaka (UTeM). Students who are acquired in finding the information about this tool and technique may refer to library to use it.

b. Industry

The studies of 5S pillars will be implemented in this industry and will be documented in file so top management and their workers are able to view

information provided. Furthermore, this study can be utilized by them in improving their production shop floor as well as in their office to keep their worker environment clean and safe.

c. Students

This report will guiding students in focusing more about 5S pillars. If there is any misunderstanding related to this topic, the report will help student as references in order to give information to them.

## **1.6 Organization**

The organization of these report are as follow: Chapter One of these report describe background, problem statement, objectives, scope and as well as potential benefit. This chapter is more outlines about study background and briefly explains generally about definition of productivity improvement in industry. Chapter Two will cover literature review which explain more deeply about tool and technique that has been chosen. It also covers the background of 5S pillars and as well as benefit of 5S implementation. There are numerous references from others books and journals that will explain more about 5S pillars to be used in this report. Next, Chapter Three present methodology that more focuses on suitable method that can be used to evaluate 5S implementation. There are three phase to meet methodology requirement which Phase I: Planning of study, Phase II: Initial Preparation and Phase III: Implement 5S program. Chapter Four describe more details about result and discussion after implement 5S program. Finally, Chapter Five conclude the entire study and give recommendation for future work.

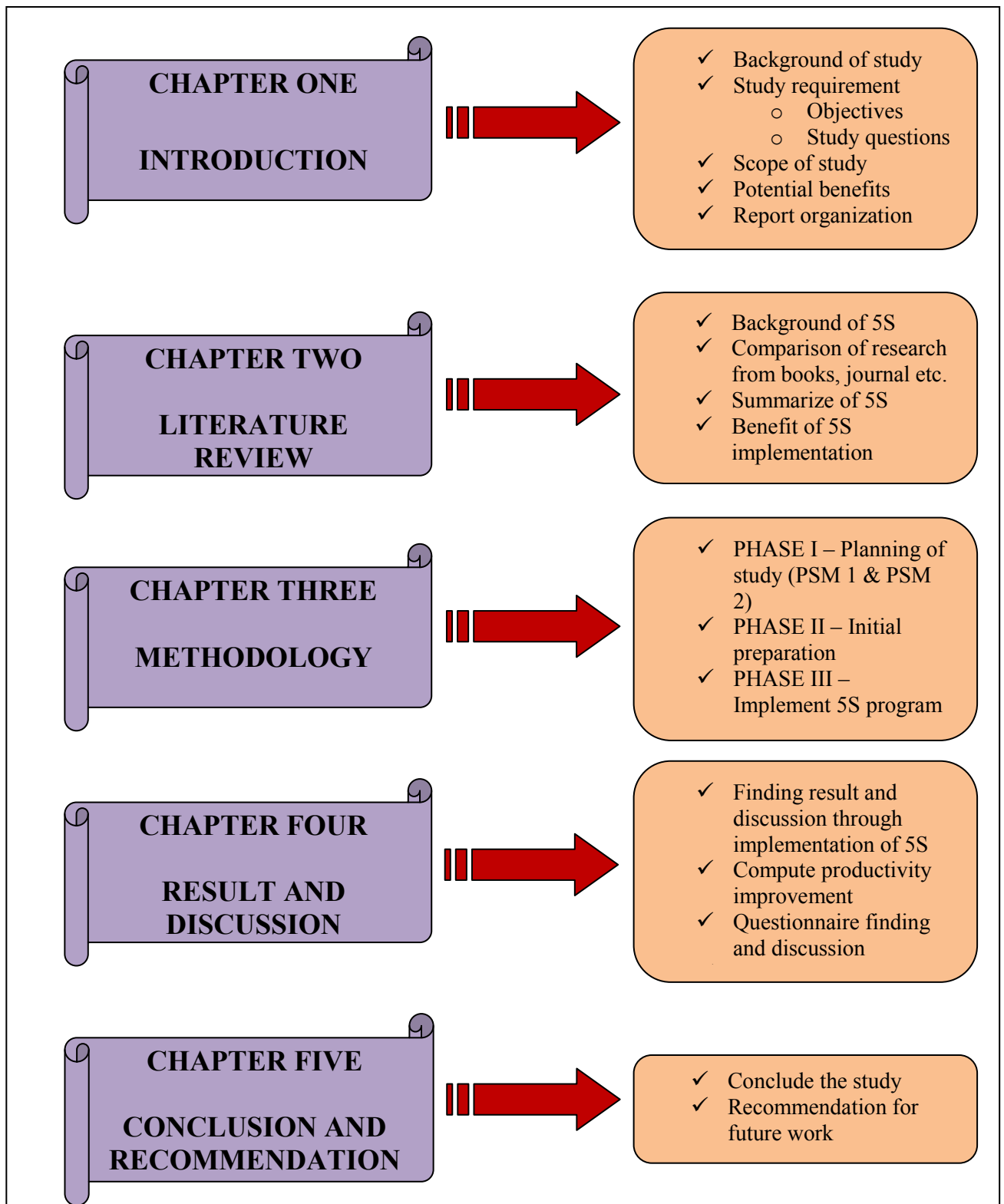


Figure 1.6: Structure of the Case Study