

## **CHAPTER 2**

### **LITERATURE REVIEW**

5S remains a campaign of innovation, improvement, and disciplines in workplace. 5S steps are not difficult to remember but to do. There are two kinds of research literature of 5S implementation in this chapter. These literatures are researches that divided into implementations in manufacturing and service company.

#### **2.1. 5S in Manufacturing Company**

Basically, 5S is a management tool, which can improve housekeeping, environmental conditions, and health and safety standards (Pasale and Bagi, 2013) that relevant to every people (Nasir, 2011). 5S implementation allows people to realize about the importance of good housekeeping, especially in manufacturing plan (Nasir, 2011) and to increase the safety climate (Srinivasan, 2012).

Hunglin (2011), on his research in Wang Chen Industry Manufacturing Factory, Taiwan, has done 5S implementation that focuses in organizing tools and improving the working environment. This research is using 5S methodology as the guidance to improving the factory. Pasale and Bagi (2013) also agree that 5S can improve the recent condition. They has done research in Sunmill Industries Pvt. Ltd. Shirolī M.I.D.C. Kolhapur,

India, and used fixture setting time as the performance measurement.

There are benefits of 5S (Walker, 2011); the pride is created in the workplace for who have input in decisions made, a clean and organized work place is safe, and increase product quality. 5S, an important tool of lean, concentrates on improving the layout of the workplace and reducing cost and waste. Moreover, 5S is simple, effective, easy to implement, and produces quick results. This makes 5S favorable over other lean tools, which may take longer to realize (Srinivasan, 2012).

## **2.2. 5S in Service Company**

Basically, 5S implementation in service company is similar to 5S implementation in manufacturing company because both company are keeping tools, products, and information but sometimes 5S implementation in service company organizes data or information to improve the employee's efficiency (Bonneau, 2011).

5S is applicable depending on the nature of company (Rexhepi and Shrestha, 2011). Maharjan (2011) in his research at Graphic Communication Management Laboratoy, Wisconsin, said that a management need supports the existing of the 5S culture because this results in lower traffic management issues due to more organized work place and less material handling (Maharjan, 2011) or utilized work space (Lancaster, 2011).

5S housekeeping is often associated with productivity and quality initiatives is being used to examine each job process in order to eliminate routine and wasteful activities that pose potential safety hazards (Becker, 2001). Good housekeeping will eliminate safety problems, improve morale, and increase efficiency, and effectiveness (Becker, 2001). By its very nature, 5S could introduced good environmental management practices and can subsequently be used to improve housekeeping and employee safety and health (Becker, 2001).

5S contributes a more efficient work place and gain benefits in tangible and quantifiable monetary but it require a high level of commitment from management by motivate people and have a high level of human involvement. Parallel to that, the workers also should be encouraged to make improvements to their work place (Chitre, 2010).

According to Bonneau (2011) 5S implementation in organization results; eliminates wastes, increase productivity of the consultants, increase efficiency of the performed tasks, increase office worker morale, have better organization, and have a clear work environment. Ghodrati and Zulkifli (2013) also provide the result by concluded that 5S has positive effect in improving the quality, efficiency and productivity of industrial organization. But Suarez-Barraza(2012) awares that potential obstacle can appear when there is a lack of balanced implementation of no action, which may block the entire deployment of the potential benefits 5S for organization.

### **2.3. Recent Research**

This research has been done in Bengkel ABC, a motorcycle repair shop. This research focuses on implement 5S in order to simplify searching activity in Bengkel ABC. The performance evaluation of recent research are; free area, payback period, service time comparison between before and after implement 5S, photograph comparing between before and after implement 5S, deep interviewing, and analyzing of employees and customers opinion through questionnaire.