

## PENGESAHAN PENYELIA

‘Saya akui bahawa telah membaca  
karya ini dan pada pandangan saya karya ini  
adalah memadai dari segi skop dan kualiti untuk tujuan penganugerahan  
Ijazah Sarjana Muda Pengurusan Teknologi (Teknousahawanan)’

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MANAGING 5S IN MALAYSIAN AUTOMOTIVE INDUSTRY

NALINI D/O SUBRAMANIAM

Report submitted in fulfilment of the requirements for the Bachelor Degree of  
Technopreneurship

Faculty of Technology Management and Technopreneurship

UNIVERSITY OF TECHNICAL MALAYSIA MLACCA

JUNE 2013

Saya akui laporan ini adalah hasil kerja saya sendiri kecuali ringkasan dan petikan yang tiap-tiap satunya saya telah jelaskan sumbernya.

Tandatangan :.....

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## DEDICATION

This thesis is dedicated to my parents for their love, endless support and encouragement.

## ACKNOWLEDGMENT

I would like to thank my supervisor, Madam L. Ganagambegai for the patient guidance, encouragement and advice she has provided throughout my time as her student. I have been extremely lucky to have a supervisor who cared so much about my work, and who responded to my questions and queries so promptly. Her guidance helped me in all the time of research and writing of this project. I could not have imagined having a better supervisor and mentor for my project work.

Besides my advisor I would like to thank the rest of my department lecturers for their encouragement, insightful comments and hard questions which build up my research study.

I thank my fellow classmates for the stimulating discussions, for the sleepless nights we were working together before deadlines, and for all the fun we have had in the last four years. Also I would like thank my friends Vijayakumar A/L Magenderin and Malathi A/P Batumalai whom were very helpful and guide me every time when I am in frustrating situation.

Last but not the least I would like to thank my family, my parents for giving birth to me at the first place and supporting me spiritually throughout my life.

## ABSTRAK

Kertas kajian ini menyatakan tentang kajian diskriptif terhadap pelaksanaan 5S dalam industri otomotif Malaysia. Tujuan kertas kajian ini dijalankan adalah untuk mengenalpasti kegunaan alatan teknik 5S. Selain itu, kertas kajian ini juga adalah untuk mengenalpasti impak terhadap prinsip 5S ke arah prestasi industry otomotif. Tujuan terakhirnya adalah untuk menyiasat respon pekerja-pekerja terhadap prinsip 5S. Secara umumnya, tujuan kertas kajian ini dijalankan adalah untuk melihat perubahan dan penerapan dalam program latihan 5S terhadap organisasi dan prestasi seseorang pekerja. Maka, untuk mengubah tingkah laku dan prestasi seseorang pekerja, kajian dapat menilai keberkesanan pelaksanaan strategi dalam 5S. Kaedah 'Mono' telah digunakan untuk memperoleh maklumat yang berkaitan dalam kajian ini. Kaedah 'Mono' yang telah dijalankan dalam kajian ini adalah boleh dikategorikan sebagai kajian, soal selidik, temuramah secara tidak rasmi. Kajian soal selidik telah dijalankan untuk menerajui pelaksanaan 5S secara lebih mendalam. Kertas kajian ini juga dapat menganalisa faktor pemangkin dan halangan yang mempengaruhi pelaksanaan dalam praktis 5S. Kertas soal selidik ini telah diedarkan kepada pekerja daripada pihak atasan dan pihak bawahan yang terdiri daripada di pekerja bahagian pentadbiran, pengurus, juruteknik dan golongan pekerja dalam industri otomotif. Kesimpulannya, kajian ini dapat menterbitkan kaedah 5S yang lebih efektif untuk jangka masa yang panjang dalam industri otomotif. Tambahan pula, dengan adanya penambahbaikan dalam program metodologi 5S, secara langsungnya ia dapat menambahbaik prestasi organisasi dan pekerja-pekerja.

Kata kunci: 5S, Industri otomotif, Soal selidik, Halangan and Pemangkin

## ABSTRACT

This paper presents a descriptive study of 5S implementation in Malaysian automotive industries. The purpose of the study was to identify useful 5S tools and techniques. Another aim was to study the impacts of 5S principles towards automotive industries performance. Finally the purpose of study was to investigate employee's response towards 5S principles. The general outline of this study was looked for improvement and adaption of 5S training program towards organization and employees performances. Hence, in order to change the employee's behaviour and performance, this study limited on measuring effectiveness of 5S implementation strategy. Mono method was applied in order to gain possible information regards on this study. Mono method such as survey, questionnaires and informal interview were conducted in this study. A questionnaire survey is used to explore the extent of 5S implementation. This paper also examines the drivers and barriers that influence the implementation of 5S practise. Questionnaire was sent out to respondent who were close related in automotive industry such as admin, manager, technicians and employees. The results of study were that generates a sustainable 5S methodology would given further positive impacts on automotive industry. The principal conclusion was that improvement on 5S methodology program would improve organization and employees performances.

Key words: 5S, automotive industry, questionnaire, barriers and drives

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

This chapter will discuss about the background of the study, problem statement, objectives and scope of the study, importance of the project and summary.

#### **1.2 Background of Study**

The Malaysian automotive sector is characterised by a domestically developed manufacturing structure geared towards the production of passenger vehicles. The sector has been heavily subsidised and protected to produce national champions and automobile components and parts suppliers. The Malaysian automobile market is dominated by Japanese automakers. ‘Look East’ policy adopted in the early years of the National Automotive Project, the continued dominance of Japanese firms in the Malaysian market is unsurprising. Although Malaysian automotive industry adopted Japanese 5S concept in their organization, they do not optimize 5S concept in their organization. If workers are exposed to do work in the inconvenient with all the equipments put everywhere and unsystematic workplace condition which might cause accident. Hence, it is not only increase the employer’s budget but also caused the safety issues in a workplace. So,

these situations will not bring any profits to the companies. So that, 5S concept must implement effectively by every automotive industries. Yet, our Malaysian automotive industries do not use 5S sufficiently. So this situation does not bring any changes in equipment arrangements, standardization and discipline in the particular company.

Puvasvaran (2008) stated that a scientific approach is needed to solve and improve the problem solving close to its source and root cause. Every problem is an opportunity to improve the process and environment and every problem is also an opportunity to develop people surround. In order to overcome these problems, a relatively simple and inexpensive technique or tool for employers to assess the possibility of present and future mismatches between the skills of their own workers and their working area that is 5S is proposed. This technique is adapted from Japan, which is also related with some other concepts such as SMED, Total Productive Maintenance (TPM) and Just in Time (JIT) as well Teeravaraprug (2011). 5S is a tool and method for organizing and improving a workplace especially a shared workplace and keeping it in organized conditions. Many people mistakenly believe that 5S method is just purpose for housekeeping but it far more than that. It is a process to create more productive people even employer and employees and more productive companies through high education, motivation and good practice of 5S. It involves the creation of a strong corporate culture filled with the spirit of high productivity (LeanMan, 2011).

Apart from that, this 5S technique has its general benefits in improve the safety, decrease the down time, reduce the delays, raise worker's morale, lead to identifies problems more quickly, improve the quality, establish convenient work practices and increase an efficiency and productivity.

### **1.3 Problem Statement**

Currently 5S concept already implemented in automotive industries in Malaysia. There were organized some 5S related programmes and training to employees in automotive industries. Instead they are left behind from the real meaning of 5S concept. In their perception 5S just for housekeeping and cleaning purpose. In the other hand some of industries adapt 5S concept as a compulsory lesson due to monthly or yearly auditing purpose. In real word they do not understand and optimize the real value of it. Here the researcher will study on the implementation or adaption of 5S concept in automotive industry and come out with sustainable 5S programs merely given more effectives changes.

### **1.4 Research Objectives**

- I. To identify useful 5S tools and techniques.
- II. To study the impacts of 5S principles towards automotive industries performance
- III. To investigate employees response towards 5S principles.

### **1.5 Scope, Limitation and Key Assumptions Of The Project**

#### **1.5.1 Scope**

The general outline of this study is looking for the effectiveness of 5S training program and related it to the employee's and management performance. Hence, performances of employees for sustaining and balancing the organization can be create by implementing an effective 5S program in the automotive industry

### **1.5.2 Limitation**

In order to change the employee's behaviour and performance, the study also limited on measuring the 5S program effectiveness and training implementation strategy. This study looks at the employee's performance and adaptability of 5S concept in automotive industry.

### **1.5.3 Key Assumptions of the Project.**

Assuming that the employee's lack knowledge about nature concept and benefits of 5S and the organization running without knows the contribution and importance 5S. They necessarily adapted 5S just a compulsory learning base concept. This research aims to understand the real practise of 5S and its contribution to the automotive industry.

### **1.6 Importance of the Project.**

The researcher want to generate sustainable 5S programme through optimize real concept of 5S due to improve the quality and performance of an industry. The researcher wants ensure that every employee's in automotive industry knows well about 5S concept. This project study going to enhance an adaptability of 5S make the automotive industries move forward and running an effective production as well.

## **1.7 Summary**

This chapter are contents of background of study, objectives, scope, limitation and importance of the research study. Where this chapter as an introduction of the research topic.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter will review the study of 5S that have been done by researches, experts and author from the relevant references. It is included the brief history of Malaysian automotive industry and the philosophy of 5S steps which are reviewed from other sources that involve in 5S implementation previously. Finally, there will be a discussion about the link of 5S with other performance improvement initiatives and the benefits and barriers of 5S implementation.

#### **2.2 History of Malaysia Automotive Industry**

Centrally located in the ASEAN region with a population of more than 500 million people, Malaysia offers vast opportunities for global automotive and component manufacturers to set up manufacturing and distribution operations in the country. Pragmatic government policies, political and economic stability, sound economic fundamentals, well developed infrastructural facilities and an educated and skilled labour force have attracted major international automotive and component manufacturers to invest in Malaysia. The Malaysian automobile

market is dominated by Japanese automakers. Given the role played by Mitsubishi and Daihatsu in the establishment Proton and Perodua as well as the outspoken 'Look East' policy adopted in the early years of the National Automotive Project, the continued dominance of Japanese firms in the Malaysian market is unsurprising. Toyota-owned Daihatsu has taken a controlling share of Perodua, though it still enjoys the preferential treatment bestowed upon national producers. Mitsubishi, on the other hand, has recently divested from Proton, making Proton a fully owned Malaysian company. However, among the top ten passenger vehicle makers five are Japanese or controlled by Japanese firms (Perodua, Toyota, Honda, Nissan, Suzuki), another three are Malaysian (Proton, Naza, Inokom) and one is South Korean (Hyundai, which also is a minority shareholder of Inokom), making Daimler owned Mercedes the only European company represented on the list.

### **2.3 Theory 5S Principles**

Based on Sheldon (2008), the 5S principles and philosophy refer to Manufacturing Management. 5S is initially acronym of five Japanese words which stands for *seiri* (organization), *seiton* (neatness), *seiso* (cleanliness), *seiketsu* (standardization) and *shitsuke* (discipline) . According to Sui-Pheng and Khoo, (2009), the 5S practice is based on the five philosophies which are personal organization, neatness, cleanliness, standardization and discipline.

Organizing the 5S team is an important approaching in order to solving many potential problems. The 5S practice is a technique that used to establish and maintain the quality environment in an organization effectively and promised the employees to be more self-discipline (Pheng, 2007). This technique which is applied in order for providing order and discipline at companies and working

place, provides the supervision of both simple and even the smallest details of the company and forms the basis of the other improvement activities.

Hirano (1995) considered 5S to be an industrial formula that differentiates a company from its competitors. The company is being as benchmarking for the competitors. Kobayashi *et al.* (2008) made a difference and distinction between 5S as a philosophy or way and 5S as a technique or tool by doing comparison between the frameworks done by Hirano (1995). From the study and observation, 5S is concluded tends to be recognized as a technique or tool in the United Kingdom (UK) and United States of America (USA). Furthermore, O'hEocha (2000) confirmed that 5S is an effective technique that can improve housekeeping, safety standards and environmental performance in a systematic way.

Ahmed and Hassan (2006) and Chin and Pun (2008) described that much of western literature still acknowledges 5S as "housekeeping". 5s is encourages the employees to improve their working place conditions and helps them to learn how to reduce the waste, unplanned time and in-process inventory (Gapp *et al.*, 2006). Chapman (2005) stated that 5S is a systematic tool for production, a business system for organizing and managing manufacturing operations that requires less human effort, space, capital and time to make products with fewer defects. Nichols (2011) described that there were five activities in the Japanese system. These activities, each beginning with the letter S, were as Seiri (sort), Seiton (set in order), Seiso (shine), Seiketsu (standardize) and Shitsuke (sustain).