

IMPLEMENTATION OF 5S TECHNIQUES IN KORTECH
ENGINEERING LIMITED

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ENGINEERING LIMITED**

This report is submitted in accordance with the partial requirements of the University of Management and Technology (UMT) for the Degree of Bachelor of Science(Honors) in Industrial Engineering **BS(H)-IE**

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DECLARATION

We hereby, declare this thesis entitled “Implementation of 5S techniques in Kortech Engineering.” is the results of our own research and our own work in the Industry

Signature:

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APPROVAL

This report is submitted to the Faculty of Industrial Engineering of UMT as a partial fulfillment of the requirements for the degree of Bachelor of Science in Industrial Engineering with Honors.

The member of the supervisory committee is as follow:

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ABSTRACT

The five pillars of the visual workplace, commonly referred to as the 5S (Sorting, Systematizing, Sweeping, Sanitizing and Standardize). 5S is a process of work place organization and housekeeping which is carried out gradually and systematically. The 5S method is a structured program to implement workplace organization and standardization. A well-organized workplace motivates people, both on the shop floor as well as others. 5S improves safety, work efficiency, improves productivity and establishes a sense of ownership. This project illustrates about Proposing improvements using 5s Technique in manufacturing company, Kortech Engineering Limited. Which produce cars Radiators and heat Exchanger. The project is focused on implementing 5S with contribution from the employees. During implementation, lot of activity has been done. From this project, the impact of 5S implementation are reduce inventory, efficient on workplace usage, reduce time for searching spare part, reduce oil / water / air spilled, reduce unstabilization, preventive of machine function, cleaning and checking machine condition, improve working condition, reduce work accident, increase discipline, follow procedure, and better relationship among employees.

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DEDICATION

For Our beloved Father and Mother

HAFIZ KHALID HUSSAIN

UMA HAMZA

MUHAMMAD TUFAIL

UMA FARHAN

*And for my supervisor, lecturers, family and friends for
their loves and supports.*

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LIST OF ABBREVIATIONS

AMT	-	Advanced Manufacturing Technologies
e.g.	-	For example
Etc.	-	Extra (and other things)
FYP	-	Final Year Project
i.e.	-	That is
ISO	-	International Organization for Standardization
JIT	-	Just-In-Time
Kg	-	Kilogram
SME	-	Small Medium Enterprise
TPS	-	Total Production System
TQM	-	Total Quality Management
PDCA	-	Plan, Do, Check, Act

1.1 INTRODUCTION

These chapter overall discuss the introduction of the Implementation of 5S techniques in the KORTECH ENGINEERING LIMITED.As well as a brief introduction of the industry. In this part, the briefing of the background, problem statement, objectives, scopes and the expected of the project are discussed.

1.2 BACKGROUND OF THE PROJECT

The 5-S framework was originally developed by just-in-time expert and international consultant **Hiroyuki Hirano**. The 5S framework is an extension of Hirano's earlier works on just-in-time production systems. The 5-Ss represent a simple "good housekeeping" approach to improving the work environment.

In general, the 5S approach includes the controls the work floor conditions rather than the worker's behavior. It is relatively inexpensive for the company to implement. It makes the worker's job easier and safer. It promotes daily activity for continuous improvement. It fosters efficiency and productivity while improving work flow. It encourages a proactive approach that prevents problems and waste before they occur. It provides a practical method for dealing with the real problems that workers face every day. And it fits with a facility's other efforts, such as total preventive maintenance, just-in-time manufacturing, pollution prevention, safety initiatives, and lean manufacturing efforts.

The goal for this project is to let people realize about the importance of good housekeeping, especially in manufacturing plan. Many people think that housekeeping should be done by housewives at home, and cleaners at work. They do not realize that they, too, play an important part in keeping their houses/workplaces clean. More importantly, they do not know how much they can gain for themselves by just practicing good housekeeping. Whether work in an office, the factory, the warehouse, the laboratory or any other place, housekeeping is relevant to every people.

Good housekeeping is important as it can create an environment in which even minor abnormalities and mistakes will be obvious. Plus, it will produce an easily managed, safer and more pleasant environment. In industry, a clean, well-ordered and attractive work environment sets can help encourages tidy work habits in employees. It helps reduce fatigue. It will promote good worker-management relations. It also gives a lift to morale, which is reflected in the quality of production and overall efficiency. It can stimulates efforts to improve productivity through better use of people, space, equipment, time and materials

Good housekeeping is also a good advertisement for every company. It is because customers and clients will have more confidence in an organization when their works is being carried out efficiently in clean, pleasant, well-ordered work surroundings.

Good housekeeping portray professionalism and efficiency to others. It can be expected that the standards displayed in the environment will be reflected in the product.

The more important reason why good housekeeping matter is it makes the undertaking a safer place to work in. Good housekeeping is a main factor in preventing accidents. Majority of all work accidents are caused during the handling of goods or materials, and by people falling, being hit by falling objects, or striking against objects in the workplace. All these causes can be reduced by good housekeeping practices. In fact, good housekeeping is the only cure for hundreds of accidents that occur.

Typical examples of poor housekeeping that lead to these accidents are:

- ❖ Excessive material, waste or chips in the working area.
- ❖ Congested aisles.
- ❖ Tools left on machines.
- ❖ Waste containers overflowing.
- ❖ Lockers and workrooms in disorder.
- ❖ Acids in open containers.
- ❖ Broken glass.
- ❖ Electric leads or air lines across aisles.
- ❖ Dirty light fittings, windows and skylights.

We can stop accidents through good housekeeping. Where housekeeping is bad, fire is a constant hazard. It can be caused by many housekeeping problems, such as soil soaked rags and clothing igniting from spontaneous combustion and many more. Poor housekeeping can also lead to infestation by pests such as rodents and cockroaches and create serious health risks.

1.3 PROBLEM STATEMENT

For a company to implement and practice good housekeeping, it cannot be accomplished either casually or in a day or two. The whole company must take part in order to ensure the program is successful.

According to Herbert (1943), in his opinion, good housekeeping comprises the following elements (these are not necessarily in order of importance):

1. Men and machines should be so placed as to provide the easiest and most efficient flow of production.

2. Operations should be so located that the health hazards, possibly associated with one will not imperil workers on another task.
3. Structural and operational arrangements should be made to permit easy traffic of men and materials within the plant.
4. Adequate space should be allotted for the storage of movable equipment and tools not in current use.
5. A safe water supply and proper sewerage and sewage disposal facilities must be provided.
6. Definite janitor service should be furnished for the regular cleaning of sanitary facilities, locker and eating rooms, windows, lighting fixtures, and other parts of the interior of the plant.
7. Proper maintenance of all equipment must be enforced; this will become a relatively easy matter if the other items are carried out in a conscientious manner.

1.4 OBJECTIVE OF THE STUDY

The objectives of this project are:

1. To study and identify problems at work area.
2. To propose improvement using 5-S practices among the employees.
3. To measure the improvement after proposing 5-S practices.

1.5 SCOPE OF THE PROJECT

This project will thoroughly focus on Implementation of 5S techniques in work area of KORTECH ENGINEERING LIMITED and indirectly improve the employees' manners. This condition will create win-win situation between employer and employees.

1.6 INDUSTRY OVERVIEW

Kortech Auto Industries (pvt) Ltd. is a Manufacturer of Heat Exchange related items in Copper and Brass specially Radiators for various applications. Kortech Radiators have been efficiently serving its diversified customers ranging from specialized fields like Agricultural Machines, Industrial Applications, Gensets, Rigs, Construction Machinery, H D etc. going up to Automotive needs. Vast network of Aftermarket sales coupled with Prestigious Automobile OEM sales is the major bulk of Kortech Revenues. We take Pride for localization of Radiators for Defense equipment including Tanks, APC's etc. being produced and exported by Defense industries of Pakistan.

KORTECH is now focusing on increasing its export base and reach out to international customer. Reliable Quality at Competitive price is an edge by virtue of which our exports are growing every year now. Their main products are Cores in several configurations. Radiators pressure caps / Sheet Metal Parts, Sheet metal Parts, Heaters and their cores and Industrial Heat Exchangers are some of their prominent products.

Kortech has an impressive 50000 sq. covered area at its disposal .Ideal Located at walking distance from Pakistan Motorway with easy access to road, Rail and Sea routes. Equipped with state of the art machines for Fins, Tubes, Baking, Soldering etc., mostly of European and American origins, an Adequate tool shop for in house production of tooling. Its raw materials are procured from world's best sources. Fully equipped Sheet metal shop with presses up to 500 tons capacity is used not only for producing stampings for in house use but also to cater for growing Customer demand of

Radiator Tanks in various designs. Kortech has more than 100 tooling available for production of tanks.

Air drying and staving Paint facilities backed by semi-automatic surface finishing line gives longer shelf life. Development department makes use of CAD designing and Reverse engineering techniques for design purposes.

