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## A Study on “The Awareness and Evaluation of the employees towards 5s (Sort, Set in order, Shinning, Standardize, Sustain) training technique at PI Industries Ltd. (Jambusar Plant)

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### ABSTRACT

5S is the basic foundation of Lean Manufacturing systems. It is a tool for cleaning, sorting, sorting and providing needed the basis for developing performance clips. This paper discusses the use of the 5S approach in the small-scale industry.

According to the 5S method, shows significant improvements in safety, productivity, efficiency and house maintenance. Development before and after 5S the implementation is illustrated with pictures on paper. It also aims to build a strong work ethic between managers and permanent employees they are expected to continue with good habits.

Keywords: 5S, Manufacturing, Lean Manufacturing, Process Analytical Hierarchy (AHP).

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### INTRODUCTION

5S methodology was first introduced by Japan and was initially implemented by the **Tovota Motor Corporation**. This methodology was developed as a way to make “just in time” (JIT) manufacturing process possible. This is a kind of manufacturing which intends to produce only the amount of a product quantity that is needed, when it is needed. As having an unclean environment contains hidden risks for workers and equipments. So, having an organized workplace that utilizes visual cues, to maintain itself allows JIT manufacturing to proceed more smoothly. In this type of environment, it’s easier to see problems and move the materials efficiently. There are many benefits that are associated with the implementation and continuous use of 5S.

Some of the top reasons to begin 5S include:

5S is also known as a sub-part of the entire Lean manufacturing philosophy.

5S is simple to start and it also shows the value of “Lean manufacturing”.

5S is easily recognizable by the employees as well as the members of higher management.

5S principles aim at improving the work environment. As, each “S” designated has progression in its implementation.

5S stands for: Sort, Set in Order, Shinning, Standardize, and sustain consecutively.

It basically represents those 5 disciplines which are used for maintaining a visual workplace: visual controls and information systems, and is meant to improving the overall organization and cleanliness of the workplace.

The Japanese words, relating to 5S are explained below in detail:-

#### **Kaizen - (pronounced as “ki zen”) – improvement**

Kaizen Event and 5S Event planned improvements to a specific area or process which usually takes 3 to 5 days.

5S events are mainly focused on making the 5S improvements.

- **Muda** - (pronounced as “moo da”) – means waste.
- **Gemba** - (pronounced as “gim ba”) – means the workplace.
- **Kanban** - (pronounced as “kon bon”) – means a pull type inventory control system. Items here are only produced to meet the demands of the customers. The request to produce more number of units is signalled from an upstream operation and/or customer orders.

These are the foundations to Kaizen’s continuous improvement and a manufacturing strategy based

“Lean Manufacturing” (waste removing concepts).

Lean manufacturing – concept that aims to seek continuous improvement by removing waste in processes.

The term Lean manufacturing refers to the application of Lean practices, principles, and the tools used for the development and manufacture of physical products. ... Manufacturers use Lean manufacturing principles to eliminate waste, optimize the processes, cut costs, and boost innovation in a volatile market.

It is one of the activities that will help us ensure our company's survival.

The 5S methodology is considered to be one of the most best performing operational practices with the best results in the studies of the world class manufacturing because:-

(1) Of its contribution to the improvement of processes focused on the productivity and quality [1-5],

(2) Safety [3-4, 6-8]

(3) And work environment [6-7, 9],

With the fast results [1, 10-12] and the low implementation costs [8].

The companies worldwide have an elementary perception and an understanding of the importance and potential of the 5S methodology [1], leaving them unable to understand the benefits of the methodology as a strategy to improve their performance in decision making and organizational growth [5].

Despite of all the facts, that the 5S methodology is well known in the manufacturing sector, there is also a small evidence about its implementation because companies are now a days reluctant to use this sort of methodology in a formal way.

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### OBJECTIVES OF 5S:-

**Productivity:** - 5S increase the productivity of the organisation. Specially, it works in both the personal and working life. The face of an undisciplined office becomes the discipline because of 5S.

**Security:** - When a man follows 5s, it increases the safety issue of the organization he is working in.

**Reduce waste:** - 5S teach to clean up the process by arranging the materials in discipline way. Unwanted materials are reduced from the workplace by 5S methods.

**Worker commitment:** - Worker commitment increases by applying 5S. There are lots of other benefits and objectives of 5S. So, it should be practiced in personal life as well.

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### REVIEW OF LITERATURE

Sr. No	Year	Author	Title	Findings
1.	2012	Kumar and Kumar	“Steps for the implementation of 5S system”	Developed basic guidelines for the use of each 5s step.
2.	2013	Ghodrati and Zulkifli	“Impact of 5s Implementation on Industrial Organizations”	5s is an effective tool to improve organizational performance.
3	2014	Young	“Use of 5s in Health Care Services”	Increasing the commitment of all stakeholders, academics, staff and students, decreases.
4.	2016	Rai	Effective implementation of 5s in organizational performance	5s the process can firmly support the goals of the organization in order to achieve continuous improvement and high performance.

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### OBJECTIVES:-

1. Assessing awareness about 5S training among middle and upper level staff.
2. Evaluate the implementation and acceptance of 5S training by organizational staff.
3. Testing the functional testing of all S 5S training after their implementation.

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### RESEARCH DESIGN:-

The research done will be descriptive and quantitative in nature. Research analysis data will be collected in the form of a questionnaire. Research forms i.e., a list of questions will be distributed to the relevant employees of the PI Industries Ltd. Industry, Jambusar.

**UNIVERSE:-**

The number of people targeted for the study is among the middle level staff who attended 5S training at PI Industries Ltd. Jambusar. Although the total capacity is 700 workers in the industry.

**SAMPLING METHOD:-**

The researcher's preferred method is sequential sampling method or to take samples of data collection.

**TOOL FOR DATA COLLECTION:-**

Sample data collection tool will be a google form provided to employees of PI Industries Ltd. Jambusar Plant.

**FINDINGS:-**

- From the data so obtained, we found that **66.6%** of the overall respondents belong to the age group of **31 – 47 years** which means that majority of the experienced staff are working on the plant.
- We found that **100%** of the staff are Male workers. It means there are no female workers on the plant.
- There are a variety of designated staff on the plant, namely **Plant Supervisor, Store Manager, Shift In charge** these are the highest in numbers. Other designations are **Sr.Executive Engineer stores, Sr. Managers** etc positions.
- **77%** of the overall respondents have an experience of **more than 5 years**, whereas **18.9%** of them have an experience between **2-5 years** and the rest **4.1%** have **less than 3 years** of working experience.
- The level of education of the staff working on the plant is **82.7% Graduates** and **17.3% Post – graduates**.
- **100% staff** is aware about 5S system implemented at the plant. No one is unaware.
- **92%** from the total staff attends the training sessions organised periodically whereas only **8%** of them do not attend it regularly.
- All the respondents were aware of the steps included in 5S system i.e. Sort, Set in Order, Shine, Standardise and Sustain.
- **84%** of the total staff are already practising 5S system into their daily workings, whereas **15%** are yet to adopt it.
- **96%** of the total staff have agreed that the training sessions give them a clear information about 5S system.
- **88%** of the staff are fully committed to 5S system whereas **12%** are yet to commit to it.
- **100%** have agreed that the 5S system aims at making the organisation clean, organised and efficient.
- **97.3%** of the respondent have agreed that all the 5S routines are updated by the appointed personally whenever required.
- **68%** of the respondents have agreed that the 5S training session is organised **once in 45 days**, whereas **14.7%** feel say that it is being organised **once in 2 months**.
- **66.7%** strongly agreed that no unnecessary items are left or stored in the workplace whereas **26.7%** have agreed to the same.
- **62.7%** have agreed that all the machines and pieces of equipment are in regular use and **33.3%** have strongly agreed to the same.
- **64%** have strongly agreed that all the tools fixtures and fittings are in regular use, whereas **33.3%** have agreed with the same.
- **64%** of the staff have strongly agreed that the storage area is defined to store broken, unstable and occasionally used items and also 36% of them have agreed for the same.
- **62.7%** have agreed that the standards for eliminating unnecessary items exist and are being followed whereas **36%** of them have strongly agreed to the same.

**CONCLUSION:-**

The Jambusar plant of PI Industries Ltd. can surely be said to have a committed and safe workplace as it follows all the norms, rules and regulations or systems to be followed to make a **“workplace the best to place to work for”**.

**SUGGESTIONS:-**

- From the data so obtained it can be rightly said that PI Industries Ltd is working well. It can do better if it motivates more number of workers to focus on attending the trainings, by teaching them its importance and benefits, by adopting it on a daily basis in order to obtain the best possible results.
- There should be an increase in the distribution of rewards and recognitions as to motivate the staff and also to increase the adoption of 5S training system helpful in achieving the common organisation goals.
- It should also try to enhance the education level of the staff members by encouraging them to obtain higher education rather than only basic education.
- Also, making small changes in its daily workings can help work smoothly and prevent any unwanted incidents or mishaps.

- Training for updating the 5S checklists and adopting a habit of doing it on a need basis should be cultivated in all the staff members during or end of every session.
- There should be an increase in displays of success stories so as to increase the number of training attendees through each passing session.

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