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Implementation of Kaizeni Small & Medium Scale Industries With aid of Avix Software

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Abstract— *The Kaizen method of continuous improvements is an originally Japanese management concept for continuous improvement. Nowadays many industries are run inefficiently which in turn affects the productivity and causes various delays. Hence our aim is to implement Kaizen and increase the productivity, reduce the delay time and ensure smooth running of the industry. One of the ways this can be achieved is with the help of 5S principle which consists of sorting, setting things in order, shine, then comes standardization and finally sustaining over a long period of time.*

As versed for quite a lot of years in Japan, Kaizen also includes other ideas like total quality control, group activities on a small scale, as well as just in time manufacturing. Along with time, it also improves the waste management capabilities, reduces unnecessary hard work and humanizes workplace.

In India, Kaizen wasn't being practiced on a large scale but as time has passed by industries have embraced the philosophy and have begun to explore the possibilities of implementing the Kaizen principle which in turn will result in better and more successful workplace.

Keywords—Better Productivity, Five S, Kaizen, Sustainability, Waste Reduction

I. INTRODUCTION

We live in a busy, fast running world where time management has always been an issue and when it comes to industries, time wastage in between and during processes has been a major problem. The industry we have selected is named Guardwel which suffers from many of those problems during its manufacturing of Fire Resisting Filing Cabinets.

Time wastage in turn hinders the production efficiency and affects the rate of production, and causes delays. So to tackle this, we are going to implement the Kaizen principle using a software in order to increase the manufacturing efficiency and reduce the wastage of time so as to the better working of industries.

The work presented in this paper is based on kaizen principle and implementing it for better and more efficient working in the industry.

The software named AVIX is used for analyzing and implementing the results we acquire with it. AVIX helps us in finding various times and their usefulness and classifies it according to their types in a pie chart. With the help of it, we get the run time of the whole manufacturing process from beginning to the end.

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Hence our goal is to study the operations from start to end, analyse this with the help of AVIX, get the result and then proceed to implement the Kaizen , 5S principle and line balancing.

II. PROBLEM DEFINITION

2.1 Problem Statement

Industry we are studying is affected on a daily basis with various waste management problems, as well as delays which in turn ends up affecting the productivity. Hence our aim is to analyze these problems with AVIX and tackle the results we get accordingly.

2.2 Objectives

1. To increase the efficiency
2. To reduce time wastage in transitioning from one manufacturing processes to another
3. Waste management
4. Reduce unnecessary hard work
5. Humanize the workplace
6. Safety improvements

III. ANALYSIS

3.1 Study of layout

Our first step was to make a rough layout of the industry, so we can get the sense of where the machines have been positioned, along with an idea of where materials are kept, where they're taken when the process is finished.

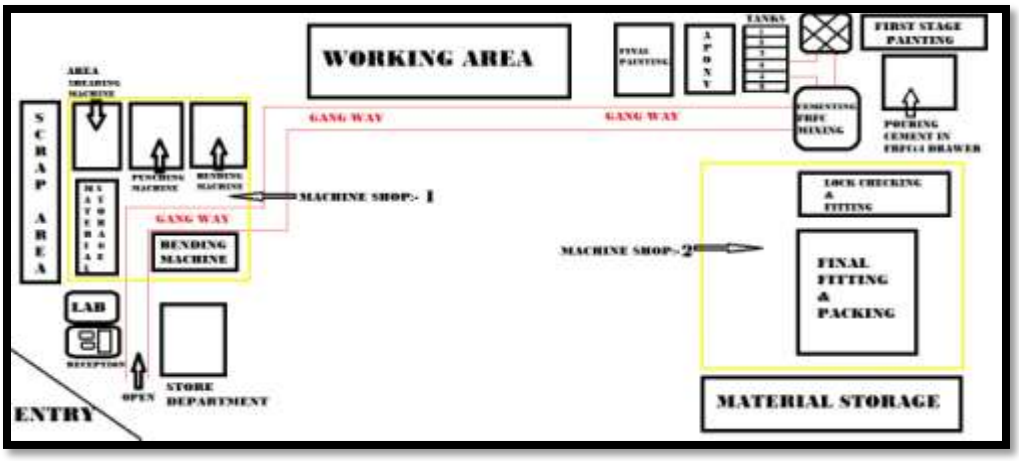

FIGURE3.1 Ground floor workshop

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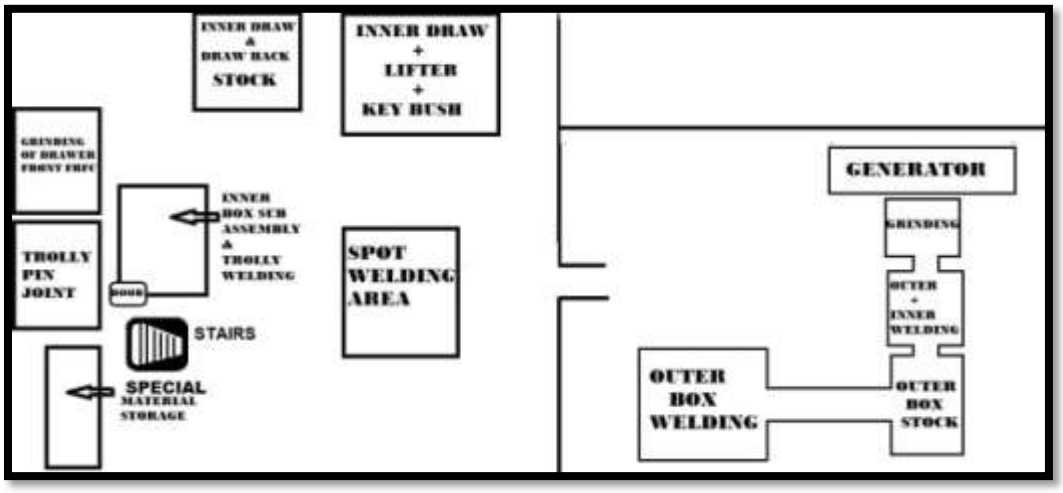

FIGURE 3.2 First floor workshop

3.2 Study analysis of processes

The next step includes video shooting of various things like; material taken from storage to the place of operation is to be performed at the start, manufacturing operations done by the workers; after a process is finished, the product being transferred from one process to another.

3.3 Analysis with AVIX

After study analysis of various operations, we upload those videos into the AVIX software and analyze them. Initially we analyze step by step movements and arrange them based on various categories such as losses, required but don't add any value, waiting and value addition. We do this for every operation there is and after doing this for various operations we get the pie chart of the whole operations. So by analysis of that pie chart we understand how many losses occur in the operations and so we can work on reducing those through the implementation of Kaizen.

After study analysis of all three machine shops we get:

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After analysis of whole manufacturing operation we get:

So after this, once we have all the data we get all the data that is symbolized as follows:

Green- Value added

Yellow- Required

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Red- Loss

Orange- Waiting

IV. IMPLEMENTATION OF 5S

Hence after getting all the losses we find the best possible way to implement 5S through which we sort, set in order, shine, standardize and sustain.

V. CONCLUSION

As we have studied and analyzed the processes from start to end in detail, we have achieved the run time of the whole four drawer fire resisting filing cabinet making operation from start to end which has helped us achieve the time that adds value, one which doesn't add any value but is necessary and finally the one that is total waste and needs to be eliminated. Hence, we can now start exploring ways to eliminate the time wasted which in turn will increase efficiency of the industry as well as reduce production time.

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