

“IMPLEMENTATION OF KAIZEN & 5S MANAGEMENT: AN APPROACH TO INDIAN INDUSTRY”

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ABSTRACT: In India many small & medium scale industries are present. Lack of productivity, greater lead time, processing time, stock out situation are major problems faced by industry. In order to solve the faced problem, we make a pin point on two major methodology are Kaizen and 5S. Kaizen implementation focuses on reducing the lead time of production by means of which the productivity of industry will be improved & 5S implementation is emphasize on most effective use of space, time, money, energy, and other resources their organization. This Technique reduces problems and bottle neck in the work flow. 5S and kaizen techniques in the small scale industry have been analysed and implemented in a case study of the machine shop. On the basis of the case study, we can brings great changes in the organization.by introducing the 5S and kaizen techniques.

[1] Introduction

KAIZEN is kanji word (language used by Chinese from which Japanese language is derived) made up of 'KAI AND "ZEN". KAI means change and ZEN means better. Therefore KAIZEN means, "change for the better". It implies continuous improvement. Kaizen means ongoing improvement involving everyone from top management to workers in all areas not only in company but in society too. In all three roles one plays that of being a producer, a consumer and a good social being KAIZEN focuses on the human aspect of doing work which is defined here the work method as opposable to the process or machining elements of work. KAIZEN is a process-oriented way of thinking. Quality or people should be improved first then quality of products can be improved. It stands for implementation of gradual improvement continuously.

Kaizen Fundamentals:-

- Employee empowerment
- Self-discipline
- Recognition

TWO ELEMENTS OF KAIZEN:

If we look carefully at both definitions, we can see at least two elements that construct KAIZEN, those are: improvement/change for the better and ongoing continuity. Lacking one of those elements would not be considered KAIZEN. For instance, the expression "business as usual" contains the elements of continuity without improvement, or on the other hand the expression of "breaks through" which contains the element of change or improvement without continuity. KAIZEN should contain both elements.

Kaizen concept in our Individual Life:

KAIZEN as you could learn from the definitions is a common word and very natural to individual, continuous

improvement in personal life, home life, social life, and working life. Everybody deserved to and should be willing to improve himself for better continuity.

"It a man has not been seen for three days, his friends should take a good look at him to see what changes have been fallen him " quoted from the old Japanese saying describe how natural KAIZEN IS. However, when KAIZEN is adopted in organization and management prospective, it is easier to talk about than to do. How can we develop and organization that has some change and improvement every day? That's what KAIZEN institute is promoting. Not a day should go without some kind of improvement being made somewhere in the company.

Transplanting KAIZEN in Organization:

Transplanting KAIZEN in the organization, we soon realize that transplanting these natural concepts of KAIZEN into organization and management is not an easy. It is very natural that people will response some kind of change in their work place, where they become unsatisfied with their present conditions. They intend to make improvements starting from their own work place. Some of the improvements can be carried out directly. Perhaps the boss want even notices them. However when approval is required several kinds of responses from the boss could have taken place. A good response is the boss encouraging their subordinates to carry out their ideas. The boss then appreciates or given recognitions. That is what we expect when we proposed something. The positive response given by the boss will then developed trust with the subordinates and stimulate other improvements. This will create the momentum for continuing improvement.

[2] Literature review

Lubna Rahman Lina & Hafiz Ullah (2019) The philosophical belief that potential improvement of everything is the foundation of kaizen: Some organizations look at a process and see that it's running fine; Organizations that follow the principle of Kaizen

perceive a process that can be improved. This means that nothing ever comprehend as a status quo – there are continuous efforts to recover which result in small, often unnoticeable, changes over time. When Kaizen is applied as an action plan through a consistent and sustained program of successful Kaizen events, it teaches employees to think differently about their work. In other words, consistent application of Kaizen as an action plan creates tremendous long-term value by developing the culture that is necessary for truly beneficial continuous improvement.

Dr. Ravi Shankar Kalva, Dr.A.Prabhu Kumar, V.Srinivasu (2018) The essence of kaizen is simple and straight forward. Kaizen means improvement. Moreover, kaizen means ongoing improvement involving everyone, including both managers and workers. The kaizen philosophy assumes that our way of life-be it our working life, our social life, or our home life deserves to be constantly improved. In trying to understand Japan's post-war 'economic miracle'. Scholars and business people alike have dutifully studied such factors as the productivity, total quality control (TQC), small group activities, the suggestion system, automation and labour relations.

Paulina REWERS Justyna TROJANOWSKA Przemysław CHABOWSKI Krzysztof ŻYWICKI (2016) Kaizen is a philosophy for continuous improvement of the company and approach it to perfection. Kaizen refers to a small, gradual improvements incurred as a result of efforts. The aim of kaizen is to improve individual operations and processes by eliminating waste and improving value-added activities. The Kaizen philosophy has been implemented in organizations around the world as a way to improve production values while also improving employee morale and safety. The Kaizen philosophy may be applied to any workplace scenario due to its simple nature.

Dr.Abhijit Chakraborty, Madhuri Bhattacharya, Saikat Ghosh, Gourab Sarkar (2016) Kaizen, Japanese for "improvement", or "change for the better" refers to philosophy or practices that focus upon continuous improvement of processes in manufacturing, engineering, and business management. It has been applied in healthcare etc. Kaizen (pronounced ki-zen) is a Japanese word constructed from two characters:

“Kai” – Change

“Zen” - Goodness or virtue

Kaizen is commonly used to indicate the long-term betterment of a process (continuous improvement) – re-orient a process. Kaizen is a daily process, the purpose of which goes beyond simple productivity improvement.

Ajay Anantrao Joshi (2015) emphasized about the 7th as in the methodology in the paper. The 7th exhibits “spirit” (team spirit). The spirit stands for the formation of the team which has motivational leader and cooperative members. Targeted outcomes after the implementation of spirit are better communication among the employees of the organizations. Workers feel the self-motivated at every time and they work with full of energy and with extreme high confidence. Spirit reduced the boredom approach of the employees toward their jobs. After all, the employees got better understanding of the problems and solve the issues with some appropriate approaches; hence, the healthy environment can be created. “Sphoorti Machine Tools” has improved productivity by successful implementation of 5S methodology.

The research carried out at the Hari Bio-Mass Processing Unit by K Ramesh and team (2014) conducted the study for reducing the waste and removing un-wanted activity in the biomass plant. In order to solve the transparent process flow, they diagnosed the current work flow of the organization. In order to minimize the waste, they trained the labours and line supervisors. Document analysis and result reported that after implementation of 5S, the industry achieved the clean work space. Also they washed the walls to enhance the working environment. As a result, the unwanted activities were reduced, floor layout became neat and clean and approximate 700 kgs of excessive scrap got reduced.

[3] PROBLEM FORMULATION

1. To know about the kaizen, 5-S KANBAN and their practical aspects in the Indian industries.
2. How these techniques put a great effect on the in achieving TQM. Is these effects are desirable or non-desirable.
3. What are the steps of implementation of kaizen, 5-S KANBAN in Indian industries?
4. Results after the implementation of these activities.
5. Comparison between the results of before and after implementation of these techniques.
6. How we can implement these activities in a new industry for achieving TQM (Quality standard)

[4] Objective of Research

The primary objective of the present study is to improve the production and reduce the cost by the

implementation of the ideas generated through kaizen. The main aim of the problem is to show that ideas generated by kaizen leads to production improvement in manufacturing. The secondary objective of research is to keep cost and quality in mind while improving production.

1. First of all, our project team select the project
2. Secondly, make a deep study to learn about the KAIZEN, 5-S and KANBAN and their relation with TQM.
3. Search an industry, which has these activities to attain 'TQM'.
4. Make a visit in that company to learn the practical aspect to KAIZEN, 5-S KANBAN & TQM.
5. Analyze the practical information of that activities, suggestion make and make a report containing all these information

[5] Result and Discussion

Impact of kaizen & 5S on quality at sentec india company private limited:

Kaizen as suggested and implemented by the people Sentec India Company Private Limited. In their sphere of work has resulted in a cascading effect in terms of improvement in quality of products.

According to the Assistant Manager Mr. Manoj Redhu Sentec India Company Private Limited. Kaizen has been major factor in the TQM (Quality Management) movement Sentec India Company Private Limited.

Kaizen and ZII (Zero Investment improvement) have changed the mindset of the work force and the manager alike at the Sentec India Company Private Limited., and they have started thinking quality since 1992 -93 'Building quality in to people means making them conscious'.

Kaizensists say that quality is a system or means to economically produce goods for services, which satisfy customer requirements. According to Mr. Manoj Redhu 'if we take care of quality the profit will inevitably follow'. The quality route according to him is the surest way to achieve higher profits and Kaizen has helped in achieve of the same. Sentec India Company Private Limited achieved the ISO 9001 & ISO/TS 16949 certification and Kaizen techniques have helped maintaining international standards.

RESULTS

(A) MUDA OF TRANSPORTATION

Distance travel saved per month by change in layout

Machine shop groups 10 km

Testing & finishing shop groups 8 km

Total 18 km

(B) MUDA OF INVENTORY

BEFORE AFTER

RAW MATERIAL 40.5 21.56

BOP 32.3 30.9

CONSUMABLES 6.56 6.42

DEAD STOCK 4.07 1.25

TOTAL 83.43 60.13

(VALUE IN LACS)

(50.17% REDUCTION)

(C) MUDA OF MOTION

- 1) Height of machine operation panel increased for operator Convenience.
- 2) Working table height increased for operator's convenience.
- 3) Main switches of machines installed near machines.
- 4) Search frees and counts free system implemented.

All these have resulted in increase of productivity by: 10-15%.

[6] CONCLUSIONS

The following conclusions are made by our project team in this case study:

1. Increase in productivity by 10-15%
2. Reduction in inventory by 50.17%
3. Distance traveled saved per month is 18 km
4. Annual turnover of Sentec India Company Private Limited increased by 140 crores.
5. Due to successful implementation of KAIZEN useful space generated is 2041 sq. feet.

6. Process improvement is 42%

7. Cycle time per component is reduced by 5%

Kaizen means change for better. This technique is adopted in various industries and is implemented successfully. Kaizen creates and excellence to implementation of suggestion scheme.

Kaizen helps by reducing wastage of any kind in the organization there by this contribute significantly to overall productivity improvement.

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