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Kaizen Technique for SME'S and MSME'S

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Abstract:
In today's world main objective of all organizations is to enhance productivity through simplified techniques and incremental improvements by adopting some modern techniques. Now-a-days kaizen technique is one of the most recognized and suitable techniques of continuous improvement. Proper use of kaizen techniques leads organization to success and growth. This paper represents different literatures and modern kaizen techniques which are helpful to new SME's and MSME's.

Keywords:*Concept of Kaizen, Continuous Improvement, Kaizen Methodology, Kaizen Toolbox), Total Quality Management.*

1. INTRODUCTION

Kaizen is Japanese way of thinking which means continuous improvement. 'Kai' mean Change and ' Zen' means "Good" the actual reason for which is improvement of work and improving the industries productivity. The idea of Kaizen is so ingrained in the minds of Japanese individuals that they regularly don't understand that they are thinking Kaizen. Japanese people uses the absolute nature of being constant change present in each human being and work for improvement by utilizing existing assets accessible inside the firm rather than a spending lot of money on technologies. The kaizen implementation includes the complete contribution of representatives from worker to top level of the executives in the organizations. Kaizen include little yet constant improvement and this little change can improve the efficiency in immense multiplication .In short, Kaizen is recognized as the best technique for improvement of performance among all the strategies as it includes less usage cost.

Additionally, nowadays, organizations are continuously looking for inventive thoughts for improving their processes. Kaizen is an idea that aims on improving a work area or an organization in incremental step by removing waste. Kaizen can be applied to any area where improvement is required. In reality, the general idea of constant improvement gives off an impression of being appropriate to each zone of mechanical and logistic activity, from the production of essential materials, for example, steel, aluminum and timber to production industries as diverse as automotive, furniture, canning, nourishment and drink (LeighPomlet, 1994). Numerous organizations have started to join the way of thinking of kaizen through the use of kaizen methodology. Kaizen project ordinarily aims on specific improvement goals like efficiency improvement with minor changes and improvement at workplace.

The goal is to focus on SME's and MSME's in India. In this paper we talk about the situation of Indian SME's, MSME's and their work toward the usage of Japanese techniques Kaizen and 5S. The main objectives of SME's and MSME's today are to increase efficiency through system improvement, organizational potential and small incremental improvements by applying modern techniques. The maximum manufacturing organizations are right now experiencing a need to react to quickly changing client needs, desires and tastes. For organizations, to remain competitive in market, continuous improvement of organization's process is become very important. Yet, in small and medium manufacturing enterprises in India there is a need of

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small and continuous improvement with the patience in Top the executive level.

Wastage during production process is rapidly increases in manufacturing industries. This is due to variation in demand of customers. This is reason behind increase in manufacturing cost. There are different ways to decrease of waste and performance enhancement like Just In Time (JIT), Total Quality Management (TQM), Total Productive Maintenance (TPM), Kaizen and so etc. JIT is a technique for inventory management wherein raw materials and manufacturing component are delivered from the vendor or provider preceding they are required in the manufacturing plant.

2. LITERATURE REVIEW

The Kaizen philosophy has made incredible impact on specialists since it improves the profitability, efficiency and productivity of an organization and also, with minimum effort high quality products are produce. The following authors discussed about concept of kaizen technique:

As per Imai (1986), Kaizen is a continuous improvement process involving each and every person, directors and laborers.

Watson (1986) says that the birthplace of Plan–Do–Check–Act (PDCA) cycle or Deming Cycle can be followed back to the notable statistics expert Shewhart who has present the idea of PDCA in 1920s. The PDCA cycle is also called Deming Cycle/Deming Wheel/Shewhart Cycle.

Suzaki (1987) alludes that CI is a way of thinking commonly practiced in production and quality circles. It gives motivation that there is no end to improve a process better and better.

Wickens (1990) features the effect of the teamwork on Kaizen. Teamwork and commitment don't approach from including the executives of workers, yet from direct contact and communication between the individual and his executive.

Teian (1992) clarifies that Kaizen represent the day to day struggles happening in the workplace and the best approach to overcome it. Hence it is something beyond a methods for development. Kaizen can be applied to any workplace where there is a necessity of progress.

Hammer et al. (1993) depicts that Kaizen makes process-oriented thinking. Therefore process to be improved before superior outcomes are gotten. Improvement can be separated into CI and advancement.

Bassant and Caffyn (1994) characterize the CI idea as an association wide procedure of engaged and supported steady advancement'. These procedures of steady advancement are bolstered by different instruments and systems.

Deming (1995) depicts that associations are created at a more prominent rate than whenever in written history. Along these lines an exceptionally aggressive and continually changing condition prescribes major administrative possibilities just as difficulties. Numerous supervisors have pressed the way of thinking of a Kaizen to adequately handle this circumstance.

Deniels (1995) discloses that the best approach to accomplish improvement for the shop floor is to make potential operators to set up their own measures, to help business strategies and to use them to drive their Kaizen techniques.

Yeo et al. (1995) speaks to the idea of Zero Defects and ―Do It Better Each Time. Zero Defects is CI over quality by identification of defects. An expression Do It Better Each Time (DIBET) methodology is related with steady, conscious and committed efforts to decrease the variation in process. They come to conclusion that CI is the most significant approach to manage business through these methodologies.

Newitt (1996) has expressed that the considering the executives and workers will be released if Kaizen theory is applied. This will improve inventiveness and value addition can flourish.

Womack and Jones (1996) refer to Kaizen as a lean thinking and spread out a precise way to deal with assistorganization efficiently to decreases waste.

Ghalayini et al. (1997) represents that Kaizen is characterized byoperatives on the shop floor,

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recognizing issues and proposing solutions—the essence of spontaneous, bottom-up change

Imai (1997) explains that the improvement can be separated into Kaizen and innovation. Kaizen implies small improvements because of continuous efforts. Innovation includes asudden improvement because of large investment in new innovation or equipment as appeared in Fig. 1.

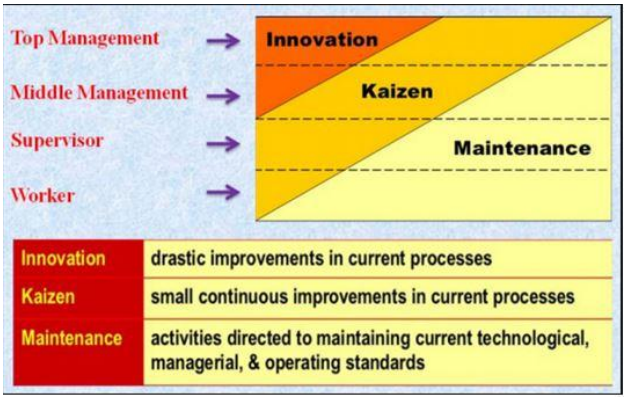

Fig. no. 1: Source Imai (1997)

3. Methodology of Kaizen

There is a standard philosophy of Kaizen which can be used in various fields such as engineering. There is a standard approach of Kaizen which can be used in various fields like manufacturing, management and other sectors of organizations. The methodology of Kaizen is also called Deming's PDCA Cycle or Shewhart Cycle. The process of Kaizen is described in following Fig. 2.

Fig.2: Deming's PDCA Cycle

Kaizen will help in teaching peoples how they can perform tasks in a quick manner through examinations and this will lead to distinguish and decrease/remove waste simultaneously and the selected procedure can be improved.

There are 10 fundamenta rules for practicing Kaizen at the Gemba:

1. Discard regular, fixed thoughts concerning manufacturing.
2. Think of how to do it, not why it is impossible.
3. Don't make any excuses. Start by addressing current practice.
4. Do not look for perfection. Do it immediately, regardless of whether for just 50% of the target.
5. Make a correction at ones.
6. Don't spend money on kaizen technique.
7. Wisdom is carried out when looked with hardship.
8. Ask —why 5 times and look for main causes.
9. Seek the intelligence of 10 persons instead of the knowledge of only 1.
10. There is no limits for kaizen techniques.

Toolbox of kaizen:

Research shows that there is no standard technique/instrument that is used for implementation of kaizen technique. The Kaizen Toolbox contains different instruments, which are as following:

1. 5 Why Technique• Basic for kaizen and simultaneously the simplest organizing technique.

• The main objective of the system is to find out the main cause of a defect or issue.

• When you discover an issue, ask why 5 times; it ask many times as you will find the main reason of problem. The primary goal of the technique is to determine the root cause of a defect or problem.

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Fig.3: 5 Why technique

2. 5 S:

• It is a strategy for sorting out, cleaning, creating, and sustaining a productive workplace.

• It's one of the easiest Lean tools to implement, crosses all industry limits, and is relevant to each function with an organization.

Fig. 4 Clarifies the idea of 5S (Workplace Organization).

Sort:- Perform —Sort through and Sort Out, red label every unneeded products and moves them out to a make—quarantine region for disposition within predetermined time. —When in question, move it out!

• Set in Order (Stabilize):- Identify the best area for remaining products and label them. —A place for everything and everything in its place.

• Shine (Systematic Cleaning):- Clean everything, all around. Use visual sweeps to ensure everything is at its respective place the place it ought to be and that waste isn't accumulating.

• Standardize: - Create the guidelines for keeping up and controlling the initial 3 S's. Use visual controls.

• Sustain: - Ensure adherence to the 5S models through training, communication and self-discipline and rewards.

3. 7 QC Tools:

• Practical Methods of enlistment and analysis of data. Fig. 5 depicts 7 QC Tools:

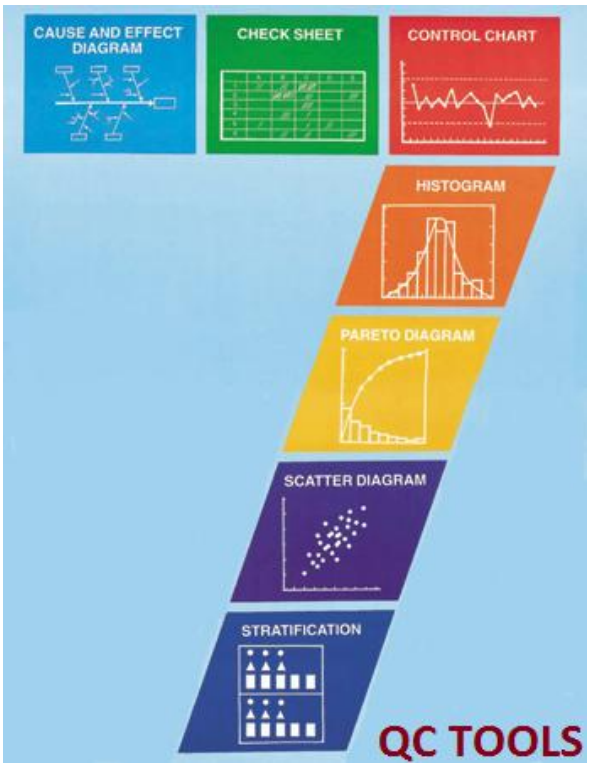

Fig. 5 – 7 QC Tools

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• Check Sheet: - It helps in sorting out information by category. It shows how often every specific value occurs.
• Pareto Chart: - A graphical tool for ranking causes from most to least significant. It draws everyone's attention to the most significant factor and provides a glance snapshot of priorities.
• Flow Chart/Process Map: - It is a graphical tool that shows the significant steps in a process. Flow charts are a very useful tool for analyzing how different steps are related with one another. By examining these charts people and teams can regularly reveal potential sources of issues and additionally distinguish steps to be taken to improve or error-proof a process.
• Ishikawa Diagram (Fish-Bone chart):- It is a tool for analyzing and illustrating a process by showing the root causes and sub causes leading to defects.
• Histogram: -A graphic summary of a set of data that reveals the amount of variation that a process has within it.
• Scatter Diagram: - A graphical procedure to investigate the connection between two variables.
• Control Chart: - A run chart with upper and lower control limits on which estimations of some factual measure for a series of samples.

4. THE BENEFITS OF KAIZEN TECHNIQUE

One of the best automobile company, Toyota is using kaizen technique. In 1999 at one U.S. plant, 7,000 Toyota workers submitted more than 75,000 proposals, of which 99% were implemented. These consistent small improvements indicate significant advantages. With each worker searching for approaches to make improvements, you can expect results, for example,
• Kaizen decrease waste in places, for example, inventory, waiting times, transportation, laborer movement, employee abilities, over manufacturing, excess quality and processes.
• Kaizen improves space utilization, product quality and utilization of capital, communication and inventory capacity.
• Kaizen gives quick outcomes. Rather than concentrating on large capital intensive improvements.

5. CONLCUSION

Nowdays it can be concluded that there is various literatures available on kaizen technique, from which gives wide perspective on past practice and research carried out across the globe. Kaizen technique is widely accepted and used philosophy in production industries and also lot of research work is required in this field, however the researches feel that Kaizen technique can also be applied to various sectors like business, administration, commerce etc.Thus there is a great scope of research available in the field of SME's and MSME's.
1. Organizations in India are competing with developing nations, for example, China/Southeast Asian nations, for example, Indonesia, Sri Lanka, Malaysia, Vietnam, Philippines, and etc. and all things considered kaizen technique can keep them in front of competition.
2. Hence SME's and MSME's need to adopt kaizen technique which don't require any investment, with the exception of on preparing costs which are very small.
3. QCD (Quality, Cost, and Delivery): QCD idea has all to be met. No single factor can fulfill the clients. Kaizen technique addresses these.
4. For embracing kaizen technique, basic preparing is adequate. In this manner, requirements on schedule for preparing aren't considered.
5. No need of educated and skilled labor is required for learning the abilities. As kaizen technique is a basic common sense approach any technician, unskilled personnel can adopted.
6. Kaizen addresses six different areas of progress. They are PQCDSM (Productivity, Quality, Cost, Delivery Safety and Morale) and every one of them are concern in any workplaces in an Industry.
7. Where wearing down rates are high in the Indian SME's and MSME's, this kaizen technique can bond

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the employees to retain them for longer periods after having trained them.

8. Even when wearing down levels are high and despite the fact that individuals leaving industries, when systems are set up, it deals with new entrants without a lot of experience also can be taken care.

9. Kaizen technique adoption can increase SME's and MSME's value in market and they can capitalize this on getting improved market share from their customers.

10. At the point when cluster based kaizen technique workshops are led, it will clear route for knowledge transfer, mutual motivation at very nominal investment.

In the light of tending to the above requirements, the simple tools which can transfer Indian Industry will no doubt take them to bigger scale of tasks/operations and become world class players.

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