

## **Chapter 3**

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## **Chapter 3**

### **Concepts of Kaizen, Total Quality Management, Quality Circles**

#### **3.1 Introduction**

Today, every industrial organization come across words like Total Quality Management, Kaizen, Kanban, Quality Circles etc; and laudatory references to the excellence of the Japanese style of management. In order to understand and evaluate what these mean, it is relevant here to look at the Japanese approach to management as opposed to our understanding of the mere familiar conservative, authoritarian style of management.

The Japanese management approaches to excellence in achievement in any sphere is the front line human being who actually does the job or performs. The individual must be given a feeling of being in an extended family at his workplace through an appeal to tribal togetherness superimposed on a corporate structure.

Every organization of industrial sector and from top management executives to shopfloor level workers is now aware regarding concept of 'quality'. It is the buzzword in industrial world. As with every new concept, 'quality' too, has entered in the Indian industry with its own concepts like, TQM, Kaizen, Quality circle etc. Therefore, it is necessary to understand these concepts, because HRD activities are directly related with these concepts in almost all the industrial organizations. The researcher has explained these concepts and the relationship among these concepts in the following paragraphs.

#### **3.2 Concept of Kaizen**

'Kaizen' is a Japanese word which means continuous improvement. Improvement or innovations has been the cornerstone of all development. Moreover, Kaizen means continuing improvement in personal life, home life, social life and also working life. When applied to the workplace kaizen means continuing improvement involving every one-managers and workers alike.

Human beings are in a constant state of flux-thinking about ways and means by which processes can be made faster, more efficient, more useful. People make these improvements everyday, either at the workplace or at home. It is really very rare that an individual does not think of improvements. Kaizen provides an opportunity to bring about improvement. Workers are given the freedom to innovate at their workplace without breaking rules and regulations and also without expecting rewards. It requires no investment and once the improvements are made, however small they might be, they are reported on a regular basis. While improvements are important, regular work cannot be dispensed with.<sup>1</sup>

Organized kaizen activities involving everyone in a company, managers and workers in a totally integrated efforts towards improving performance at every level. This improved performance is directed toward satisfying such cross functional goals as quality, cost, scheduling manpower development and new product development. It is assumed that these activities ultimately lead to increased customer satisfaction.

When the Process or technique, by which a particular task is accomplished, is altered for the better and yields positive results, then the alteration to routine can be termed as improvement. Kaizen originates from the Japanese words "kai" meaning

“Change” and “Zen” meaning “for the better”. Change for the better becomes an ongoing process when every person keeps making improvements (no matter how small), very frequently. These small improvements help workers to grow by stretching their capabilities.

Workers working in organizations often feel that their potential is not fully tapped. But when Kaizen is introduced, then they can contribute much more and in the process also achieve personal growth. One of the objectives of kaizen is to stimulate team spirit. Improvements made by collaborating with others and considered superior and hence rated higher than improvements carried out alone. Kaizen stimulates creativity and thus aids in self-development of workers.

It should be noted that many small improvements are preferred to a single, major improvement. Kaizen is a motivational system. Its primary aim is to achieve 100 percent motivation in the people and create an atmosphere that encourages continuous improvement. Kaizen deals with feelings that need to be carefully nurtured. The main thrust is on cultivating an attitude that is improvement.<sup>2</sup>

The concept of kaizen is crucial to understanding the differences between the Japanese and Western approaches to HRD and management, Japanese industries become the gentle giant of the East and got a competitive edge over the West because of kaizen and its process-oriented way of thinking. On the other hand, Indian industries implementing kaizen with a view to get more competitive and achieve total quality is exactly the opposite of what Japan did. The cause and effect relationship is exactly the opposite in the case of Japan and India.<sup>3</sup>

Indian industries need to follow the example of Japanese customer satisfaction is where it's at. Only if the customer is satisfied, then an organization can grow. Today, with the globalization and liberalization upon us, superlative quality in all stages of production is the need of the hour, and by applying the principles of kaizen, any organization can surely achieve it. Kaizen is a concept which covering most of these "uniquely Japanese" practices that have recently achieved such worldwide fame. These practices are -1) Customer orientation 2) Total Quality Management 3) Quality Circles 4) Suggestion Scheme 5) Discipline in the work place. 6) Cooperative relationship between workers and management etc <sup>(4)</sup>

In order of importance, the improvements are broadly grouped as-1) normal work done by a different method (highest importance)2) normal work which could not be done due to lack of non-availability of time and 3) work that is totally unrelated to the normal job (least importance). Most often, workers carryout their daily work in set, laid down procedure. Then, one worker introduces a change. It is only to be expected that such developmental work will eat into his already tight schedule. Therefore, one has first to reduce the time taken for completing regular tasks on hand, for, if the regular schedule is not adhered to, other improvements will only overload the workers. This is against the basic principles of kaizen and hence the innovation that speeds up or improves routine work is accorded highest priority.

In nutshell, since, kaizen is an ongoing process and involves everyone in the organization, everyone in the management hierarchy is involved in some aspects of kaizen. The aspects related to the top management, supervisors and workers at shopfloor level are explained in the following table.

**Table No. - 3.1**

**Aspects of kaizen related to top management supervisors and workers**

<b>Top Management</b>	<b>Supervisors</b>	<b>Workers at Shopfloor level</b>
Be determined to introduce kaizen as a corporate strategy	Use kaizen in functional roles	Engage in kaizen through the suggestion system and small group activities
Provides support and direction for kaizen by allocating resources	Improve communication with workers and sustain high morale	Practice discipline in the workshop
Establish policy for kaizen and cross functional goals.	Support small group activities (such as Quality circles) and the individual suggestion system.	Engage in continuous self development to become better problem solvers.
Realize kaizen goals through policy deployment and audits	Introduce discipline in the workshop	Enhance skills and job performance expertise with cross education.
Build systems, procedures and structures, conducive to kaizen.	Provide kaizen suggestion	---

## **Quality Circles**

The concept of Quality Circles aim to tap the resources of workforce to give an employee maximum involvement in his work and give management optimum benefit.

The Quality Circle movement offers a significant potential for tapping the immigration and ingenuity that lies within each worker. It provides an environment for active participation of employees in the problem areas, their subsequent recognition and analysis of the problem together with its rectification.

Today, in every large scale industrial organizations, teamwork is the guiding philosophy and hence great emphasis is laid on team building. In order to give a practical shape to the team building process, small group activities have been encouraged in all the sections or departments of the industrial organization. In each department or section, there are regular formal and informal meetings of various task groups for problem-solving and planning for the future.

A specific form of small group activity on the shopfloor is the Quality Circle. A quality Circle is essentially a group of employees who meet voluntarily on a regular basis to identify analyse and find solutions to quality problems and other issues in their work environment.

The employees who work together in a department or section have common or interdependent problems on which they can concentrate their problem-solving efforts. The number of employees in a quality circle can range from five to about ten. However, quality circles function best when there are four to eight members since every member should have an opportunity to participate in the problem-solving activities. The

implication of the quality circle is simply the decentralization of responsibility for improving quality and productivity from an industrial engineering department to the workers at large. Within a quality circle, each employee is expected, in collaboration with other group members to work out methods for improving safety and promoting rationalization.

Quality circle process is a pillar of competitive strategy which is simple to comprehend and universal in application. By virtue of being the nucleus of Total Quality Management, quality circle has inherent concern for quality, productivity, safety and human resource. The motivational and innovative character of quality circles is maintained and sustained by voluntary involvement and participation. The important feature, apart from circle members, being volunteers, is that the people care about people. Being a people building-philosophy, there are a number of factors, if taken care of, quality circles can develop fast and have everlasting impact on the organization.

The quality circles meet to i) identify work related problems, ii) study and verify problem solving techniques, iii) present their solutions. A facilitator, usually a specially trained member of middle management helps to train circle leaders and members and ensures that things run smoothly. In every organization, there is a central coordinator or a coordination committee to spearhead the movement at organization-wide scale and works on behalf of the steering committee representing top management. The steering committee oversees the entire process, provide guidance and gives recognition not just financial rewards.



### 3.3 Concept of Quality Circles

Quality circle is defined as a small group that voluntarily performs quality control activities within the workshop. The quality circle is only a part of a companywide programme. Quality circle has grown into fullfledged management tool for kaizen, involving everyone in the organization. Such companywide activities are often referred to as Total Quality Management. Total Quality Management and Kaizen activities are involving everyone in the organization- managers and workers alike.

According to Philip B. Crosby, “Quality circle activity is applied to groups of workers who gather together on a planned basis to look at the jobs they are doing and offer suggestions for improvement. It is an effective method of communication, provided it is based on a strong management. Run all by themselves, quality circles are counter-productive. After a few meetings, they run out of quality ideas and begin to get into non-quality ones”.<sup>5</sup>

In the globalization era every nation and industry faces the problem of production quality.

No Human beings is today working to his true potential. Worker’s satisfaction can ultimately mean the difference between success and failure in an organization. Quality circle is a system of getting managers and workers together to identify, analyze and solve problems in a way that benefits both groups. Through synergistic, on-the-job problem solving, it will discover how easy it is to harness worker’s brainpower and attain organizational goals. Workers will take greater pride in the work they do, work harder to

keep customer satisfied, vent frustration and hostility in constructive ways, feel more secure in their jobs knowing that their suggestions are valued and enjoy coming to work every day. The root of all quality circles is the “cooperative approach.” It is a group of five to ten workers performing similar work who volunteer to meet regularly, to identify the causes of on-the-job problems and to implement the proposed solutions. The quality circle concept is based on the premise that the people who do a job every day-know more about it than anyone else. It is a technique, based on interpersonal motivation.<sup>6</sup> The growing demands and expectations of better trained people in the workforce requires that both subordinates and managers stop thinking about “us” versus “them” and start thinking in terms of “us”.

From the above discussion it is clear that-

- 1) Quality circles enable people to improve their jobs and sense of belonging to the organization.
- 2) Quality circles recognize and tap the intellectual potential of workers-offering them the opportunity to commit one’s minds as well as one’s hand to the job.
- 3) Quality Circles provide training and structured opportunities for people to become actively involved in an interpersonal process of joint problem solving.
- 4) Quality circles are employee-owned, not management-owned.
- 5) Quality circles are ‘people-building’, not just cost reducing. They provide workers with the opportunity for personal growth and development, self respect, self esteem, self fulfillment and achievement at work.

- 6) Quality circles promote a management style that respect the intelligence of workers and encourages creativity. A style that listens to workers' recommendation and recognizes achievements in a personal way.<sup>7</sup>

Industrial Psychologists have repeatedly pointed out that given opportunity to influence decisions about their jobs, workers will take more interest and pride in their work, and more quality and productivity means improved job performance and job security. The results are a means of a proud, productive and profitable organization. It has now been more than established that the concept of 'Quality Circles' is a powerful vehicle to develop self-motivation among the employees and effectively harness their untapped potential for improving quality, productivity, cost effectiveness safety etc, in all types of activities, irrespective of nature of work, the size of organization, the cultural background or the location. The results form enrichment of the 'quilt of work life' of the task performers who were hitherto taken for granted. Breaking down of the existing barrier of mistrust between management and worker, an environment of harmony and mutual rapport and attitudinal changes are other important spin-off benefits accruing from effective implementation of 'Quality circles'.<sup>8</sup>

In short, Quality Circle is a universally accepted concept in problem solving that works.

### **3.4 Concept of Total Quality Management (TQM)**

Total Quality Management (TQM) is an approach / philosophy that is becoming more popular since the early 1980's. It is mainly aimed at maximizing the productivity and minimizing the cost. Also it focuses on improving the value and ethics of the

organization, for organizational excellence. Since, individual workers are the basic structural and functional unit of the organization; total quality management is not only a process of quality control to produce quality products from natural and produced resources, but also to produce 'quality humans'.

Total Quality Management is important because it is about building quality from the beginning and making quality everyone's concern and responsibility. The term Quality Management = Quality + Management. Quality, both in terms of people and management makes it total quality management. Since individuals were key to successful attainment of quality goals and assets depends on people to create value, organizations can rise only to the limits of their people's capacities, skills and motivations.

Total quality management is the approach to integrate all aspects of quality assurance with managerial efforts towards enhanced customer satisfaction and employee contentment while protecting and increasing the shareholders interest. The word 'Total' in Total Quality Management differentiates this approach from the traditional inspection, quality control, or quality assurance approach. TQM is an overall approach formulated at the top management level and diffused throughout the organization. All employees right from the CEO to daily rated workers at the lowest level are involved in the TQM process.

Quality in TQM not only signifies defect-free products. TQM is really more concerned with quality service than quality products. In TQM 'Quality' is defined as 'meeting and exceeding customer expectations'.

The term 'management' in TQM emphasizes that this is a management approach, not just a narrow quality control or quality assurance functions. It is a people-oriented approach and everyone in the organization must be involved in it.

Total Quality Management encompasses all aspects of management such as decision making, problem solving, integration of quality planning, quality implementation and quality improvement strategies throughout the organization. It is a dynamic process involving all levels of employees. Total quality management requires that people assume leadership throughout the organization.

There are a number of approaches and techniques being used by organizations, but all of them can not and in fact, should not be implemented simultaneously. The TQM approach emphasizes planned changes through human processes. Therefore if the techniques are implemented without proper 'needs – assessment', they may stifle progress. This shows the role of Human Resource Development (HRD) in making a decision to implement TQM and for further facilitation of the efforts is crucial.

Most Total Quality Management failures result from the 'under- consideration of individual factors (forced participation, threats to / from management control, no working human resources development model, or other people problems) so it becomes important for Human Resource Development to perform total Quality Management. So the first step in total quality management as stated earlier is about developing Total quality individuals, instilled with integrity, ethics and or deeper values, for individual, and organization.

Total Quality Management has been defined in a variety of ways, meaning a quest for excellence, creating the right attitudes and controls to make prevention of defects possible and optimize customer satisfaction by increased efficiency and effectiveness. Oakland defines; “TQM” is an approach to improving the effectiveness and flexibility of organization as a whole. Total Quality Management can be viewed as a process, where in the top management along with other people in an organization worker to improve the product quality, work environment continuously at all stages, at all levels with the aim of improving customers and employees satisfaction.

To many organizations, TQM means a total operation philosophy, which covers every aspects of organization and set of guiding principles that respect the foundation of a continuously improving organization. TQM is the application of scientific principles to an organization, all the processes within an organization and the degree to which the needs of the customer are met now and in the future.<sup>9</sup>

Total Quality Management is a pragmatic, long term systems approach initiated and driven by the top management to bring about a total cultural change and interlink and integrate every one, every function, every process and every activity of an organization through cross function involvement and participation of people to meet the dynamic needs of the customer and to create loyal but at the same time a diversified customer base.

There are some important features which are as follows-

- 1) Continuous improvement embodies the fundamental principle of Total Quality Management. Both incremental and breakthrough improvement are encouraged

by using improvement tools and techniques and learning from within the organization and through external benchmarking. Training reinforces this role for everyone in the organization.

- 2) Total Quality Management focuses every aspect of the organization's activity towards customer-oriented right first time approach. The entire organization understands the internal working relationship and the interdependence of each worker and process as customers and suppliers.
- 3) Total Quality Management calls for pro-active and systematic reviews and measurement of key processes that add value.
- 4) Total Quality Management philosophy is to guide a Process of change and starts at the top. Total Quality Management ensures that quality be recognized as a corporate strategic priority, along with financial and other priorities.
- 5) Total Quality Management is about achieving results by process-based approaches and focuses on the customer.<sup>10</sup>

The training of all the workers is the fundamental building blocks for successful implementation of Total Quality Management in the entire organization. Training of Total Quality Management help to workers to—

- a) Develop an understanding of the fundamentals of quality
- b) Create awareness and perspective of the important quality issues.
- c) Provide tools to help for build and use quality system to achieve business objectives.
- d) Provide an opportunity for free communication

- e) Generate creative ideas which are helpful in diagnosing and solving quality problems.
- f) Facilitate development of mutual understanding and cooperation among different workers from various departments.
- g) Improve the morale and human relation climate in the organization.
- h) Create awareness in workers regarding quality problems and challenges.
- i) Develop the knowledge base and pertinent skills in workers which are needed to solve the problems.

From the above discussion it is clear that, Total Quality Management is an intangible investment, not regarded as such by the economists, is equally, if not more important for economic growth. The philosophy of Total Quality Management stresses a systematic, integrated, consistent organization-wide perspective, involving everyone and everything. It focuses primarily on total satisfaction for both the internal and external customers within a organizational environment that seeks continuous improvement of all systems and process. Total Quality Management emphasizes on the use of all people, usually in multifunctional teams to bring about improvement from within the organization.

It stresses optimal life-cycle costs and uses measurement within a disciplined methodology in achieving improvements. The key aspects of Total Quality management are the prevention of defects and emphases on quality in design.



It is also relevant here to study the relation between kaizen and Total Quality Management, Kaizen and Quality Circles, Kaizen and suggestion schemes, Kaizen and Innovations.

### **3.5 Relation between Total Quality Management and Kaizen**

Kaizen has grown into a full-fledged management tool for involving everyone in the organizational activities. Such organizational wide activities are often referred to as Total Quality management. Total Quality Management and kaizen activities are involving every one in the company, managers and workers alike. Total Quality Management and it is never quite the same from one day to next day.

Total Quality Management is a movement centered on the improvement and the cost reduction. When speaking of “Quality” one tends to think first in terms of product quality. In Total Quality Management the first and foremost concern is with the quality of people. Installing quality into people has always been fundamental to Total Quality Management. The three building blocks of business are hardware, software and “humanware”. Only after the humanware is squarely in place; should the hardware and software aspects of business be concerned. Building quality into people means achieving objectives of Kaizen strategy and helping workers to become quality conscious. Both fundamental and cross functional problems arise in the work environment, and workers must be helped to identify these problems. Then they must be trained in the use of problem-solving tools, so that, they can deal with the problems they have identified. Once a problem has been solved, the result must be standardized to prevent recurrences. By going through this never ending cycle of improvement, the people can become kaizen

minding and build the discipline to achieve kaizen in their work. Management of any organization can change the work culture by building quality into workers, but this can be done only through training of kaizen and Total Quality Management concepts.<sup>11</sup>

### **3.6 Kaizen and Suggestion Scheme**

Management makes a concerted effort to involve workers in Kaizen activities through 'suggestions'. Thus, the 'suggestion system' is an integral part of the establishment of management system. The number of workers' suggestions is regarded as an important criterion in reviewing the performance of these workers' supervisor.

It is not uncommon for top management of a company to spend a whole day listening to presentations of activities by 'Quality Circles' and to giving awards based on predetermined criteria. Management is willing to give recognition to workers' efforts for improvements and makes it concern visible wherever possible. Often the number of suggestions is posted individually on the wall of the workplace in order to encourage competition among workers.

Thus, through suggestions, employees or workers of shopfloor level can participate in kaizen in the work place and play a vital role in upgrading standards.<sup>12</sup>

### **3.7 Kaizen and innovation**

One big difference between kaizen and Innovation is that kaizen does not necessarily call for a large investment to implement it. It does not call for a great deal of continuous efforts and commitment. The difference between the two opposing concepts may be linked to that of staircase and slope. Thus, whenever an innovation is achieved, it

must be followed by a series of kaizen efforts to maintain and improve it. Kaizen strategists believe that standards are by nature tentative, akin to stepping stones with one standard leading to another as continuing improvement efforts are made. <sup>(13)</sup>

‘Suggestion Scheme’ is an incentive which provides opportunity to satisfy. Self-expression, needs for social approval through recognition and even need for many which is so basic in modern societies. For management of an organization it may provide valuable suggestions from workers.

### **3.8 Implications of Quality Circles for Kaizen**

Management is usually concerned with such issues as productivity and quality. Any serious discussion of quality, for instance, soon finds itself entangled in such issues as how to define quality, how to measure it and how to relate it to benefits. There are as many definitions of quality as there are people defining it, and there is no agreement on what quality is or should be. The same is true of productivity. It means different things to different people. Perceptions of productivity are miles apart, and management and labour are often at odds over this very issue.

Whenever and wherever improvements are made in business, these improvements are eventually going to lead to improvements in such areas as quality and productivity. The starting point to improve is to recognize the need. If problem is recognized, there is no recognition of the need for improvement. Kaizen emphasizes problem-awareness and provides clues for identified problems to be solved, thus kaizen is also a problem-solving process. In fact, kaizen requires the use of various problem-solving tools. Improvement reaches new heights with every problem that is solved.

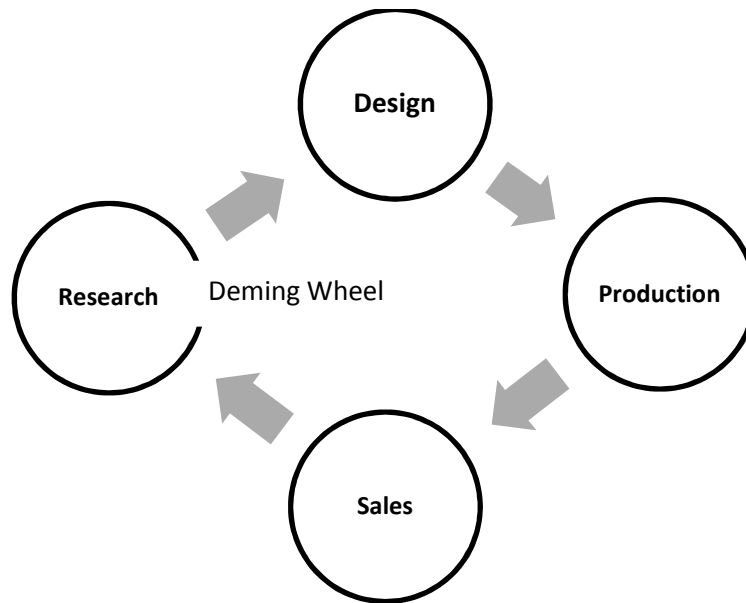
In order to consolidate the new level however, the improvement must be standardized. Thus, Kaizen also requires standardization. Such terms as QC (Quality Control), Quality Circles and Total Quality Management often appear in connection with Kaizen. To avoid confusion, it may be helpful to clarify these terms here. The work quality has been interpreted in many different ways and there is no agreement on what actually constitutes “Quality”.

In its broadest sense, quality is any thing that can be improved. In this context, quality is associated not only with products and services but also with the way people work, the way machines are operated, and the way systems and procedures are dealt with. It includes all aspects of human behavior. This is why it is more useful to talk about kaizen than talk about quality or productivity.

Deming also introduced the “Deming Cycle,” one of the Crucial Quality Control tools for assuring continuous improvement (i.e Kaizen ). The Deming Cycle is also called the deming wheel or PDCA (i.e. Plan-D-Check-Action) Cycle

**Figure No. 3.1**

**Deming Cycle**



Above Figure shows that Dr. Deming stressed the importance of constant interaction among research, design, production and sales. In order for organization to arrive at better quality that satisfies customers. He taught that this wheel should be rated on ground of quality, first perceptions and quality. First responsibility with this process, Deming argued, the company could win consumer's confidence, acceptance and prosper.

A Quality Circle is defines as a small group that voluntarily performs quality-control activities within the workshop. The Quality Circes are only part of a companywide programme; it is never the whole of Total Quality Management. Quality Circle has grown into a full fledged management tool for Kaizen involving everyone in the organization. Such organization-wide activities are often referred to as Total Quality

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