

## An Analysis of Relationship between Total Quality Management and Kaizen

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**Abstract:** Total Quality Management (TQM) and Kaizen- a continuous change toward betterment are two fundamental concepts directly dealing with continuous improvement of quality of processes and performance of an organization to achieve positive transformation in mindset and action of employees and management. For clear understanding and to get maximum benefit from both of these concepts, as such it becomes mandatory to precisely differentiate between TQM and Kaizen. TQM features primarily focus on customer's satisfaction through improvement of quality. It is both a top down and bottom up approach whereas kaizen is processes focused and a bottom up approach of small incremental changes. Implementation of TQM is more costly as compared to Kaizen. Through kaizen, improvements are made using organization's available resources. For the effective implementation of kaizen, the culture of the organization must be supportive and the result of continuous improvement should be communicated to the whole organization for motivation of all employees and for the success of continuous improvement program in the organization. This paper focuses on analyzing the minute differences between TQM and Kaizen. It also discusses the different tools and techniques under the umbrella of kaizen and TQM Philosophy. This paper will elucidate the differences in both these concepts as far as their inherent characteristics and practical implementations are concerned. In spite of differences in methodology, focus and scale of operation in both the concept, it can be simply concluded that Kaizen is one of the Technique of the TQM for continuous improvement of quality, process and performance of the organization.

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**Key Words:** Total Quality Management, Kaizen Technique, Continuous Improvement (CI), Tools & Techniques

### 1. Introduction

Continuous Improvement (CI) is one of the important elements of competitive advantage in production system and for the existence of organization (Dean and Robinson, 1991). Continuous improvement is an on going process of improvement which involves all the stakeholders at all level in the organization (Malik and YeZhuang, 2006). TQM and Kaizen are two fundamental concepts directly dealing with continuous improvement of quality, standard way of accomplishment of a job and performance in an organization to achieve positive transformation in thoughts and action of employees. Owing to similarity in practical application, confusion exists while comprehending the core issues related to both the concepts. Therefore, before embarking upon the discussion of continual quality improvement, it is necessary to be precisely clear about both the concepts and to discern the differences between them.

Kaizen is a Japanese word that indicates small continual improvement as routine functioning of the organization (Chen *et al.*, 2000). Kaizen is a combination of two Japanese words, Kai mean change and Zen mean toward betterment (Palmer, 2001). Kaizen is also known as *Gemba* Kaizen mean 'Continuous Improvement' (CI) at actual work place.

The ultimate goal of Kaizen is to make a good learning organization through small incremental changes toward betterment known as kaizen events. These events are performed through cross functional teams. To involve the people in kaizen means, go beyond their contracted role to continually identify and develop better way of doing a routine job and enhance the organizational performance (Brunet & New 2003).

Kaizen was initially introduced in Toyota Motor Company by Imai in 1986, to improve quality, productivity, and competitiveness of its product due to increasing competition in the world. With the implementation of Kaizen, the manufacturing sector of Japan has earned a lot and become a world class. Since then Kaizen has become a part and parcel of Japanese's manufacturing system (Ashmore, 2001). On the other hand, Total Quality Management (TQM) refers to the management's approach which focuses on the quality and involve all the employees at all levels of an organization. ISO: 8402 defines TQM as "*Management approach of an organization, centred on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society*".

The focus of this paper will be on analysing of the main differences between the two concepts. The main objectives of this research are;

- To analyse the relationship between TQM and Kaizen and hence establish the difference between two concepts
- To identify the differences in tools and techniques of both the concepts.

The research merits attention as that, the concept of TQM and kaizen would be easier to comprehend. The reader would be able to identify the differences between the two, besides being guided with the tools and techniques identified by different researcher in this field.

## 2. Literature Review

### 2.1. The Kaizen

Masaki Imai (1997), in his book *Gemba Kaizen* defines Kaizen as; “KAIZEN means continuous improvement. The word implies improvement that involves everyone—both managers and workers—and entails relatively little expense. The kaizen philosophy assumes that our way of life—is it our working life, our social life, or our home life—should be the focus of constant improvement efforts”. This concept is so natural and obvious to many Japanese that they often do not even realize that they possess it (Imai, 1997).

Thus kaizen is a continuous improvement and struggle for betterment in our daily working and personal life. Imai gives principles of Kaizen in comparison with other continuous improvement practices and techniques in an organization. Anthony C. Laraia (1999), in his book *Kaizen Blitz* defines Kaizen as; “The Japanese technique of continuous improvement involving everyone, managers and workers. In manufacturing, kaizen relates to finding and eliminating waste in machinery, labour or production methods”. Everyone involved in manufacturing process is responsible for the identification of wastes in the process, and workplaces. The elimination of these waste improve the quality and performance of the organization. Suzaki (1987) considers Kaizen (continuous improvement) as a philosophy which is widely practiced in manufacturing processes and quality circles. Kaizen is based on concept that there is always room for improvement of the process. Process can be made better through small incremental changes towards betterment also called Kaizen events. This small improvement project consists of many development phases. Kaizen was originally used for improving manufacturing processes. Now this concept is widely used and practised in every sphere of life in Japan and other industrially developed countries of the world. Teian (1992) considers Kaizen more than just a means of improvement; the reason is that it represents the daily effort of the workers at the workplace to improve their

processes and the way this effort is being made. The concept of Kaizen can be implemented at every place in the organization which requires improvement. Either it may be an individual department workplaces manufacturing process or whole organization. Bassant and Caffyn (1994), define Kaizen as ‘It is a process of focused and sustained innovation through out the organization that is in the form of small incremental projects known as kaizen events’. It means systematic way of small incremental changes toward betterment in each place and each department. These small changes are brought through workers working on their own jobs or by a cross functional team of workers given a special task of improvement. Similar concept was given by Cheser (1998), who believed that Kaizen is based on small incremental changes in routine functioning of the organization, which further reduces waste and improve productivity and quality of the product. As a continuous improvement Kaizen gain popularity when it was considered as an over arching concept for TQM. (Lillrank & Kano, 1989). In any organization, improvement through Kaizen depends upon its employee’s cooperation (Malloch, 1997). Team importance is a fundamental design of kaizen approach. Hyland et al (2004) highlighted prospective benefits of Kaizen, as organizational performance improvement in the form of reduction in waste, breakdowns, lead time, setup time, and as human resource development, in the form of enhancement in skill level attitude, knowledge, empowerment, and quality of life of the worker.

### 2.2. Fundamental Elements of Kaizen

The foundation elements of Kaizen as given by Imai (1986) are appended as follows

- Teamwork.
- Self discipline
- Improved morale
- Quality circles
- Suggestions for improvement
- Elimination of waste (muda) and inefficiency
- The Kaizen 5S framework for good housekeeping.
- Standardisation of the processes

### 2.3. Types of Kaizen

According to Imai (1997), Kaizen may be of following type

- Individual versus team Kaizen
- Day to day versus special event Kaizen
- Process level versus sub process level Kaizen

#### 2.3.1. Individual versus Team Kaizen

Mostly, in Kaizen a team approach is used however another method called “Teian Kaizen’ or personal Kaizen” is also adopted. Kaizen in which the individual employees reveal improvement areas in their

daily work activities and give ideas/suggestions about its improvement is known as Teian Kaizen. This method focuses only on the suggestion for change. Making change for improvement require approval at appropriate level. However, at Toyota motor company the employee suggesting the change is the one who always makes the change either individually or as team member.

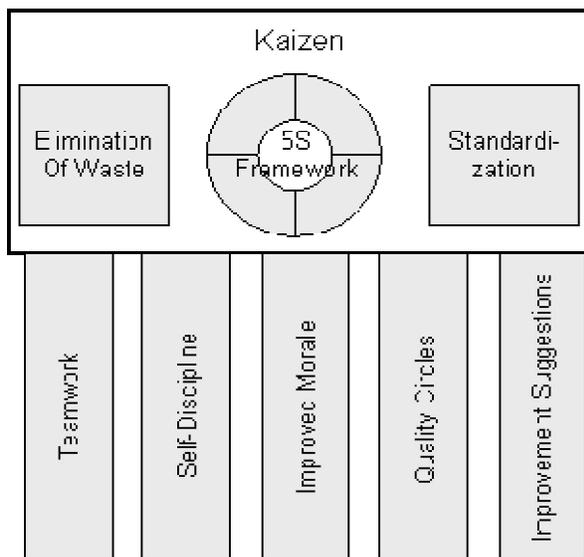


Figure: 1 Elements of Kaizen

Source: - 12 manage.com

### 2.3.2. Day-to-Day Versus Special Event Kaizen

Quality Circles are illustration of a day-to-day Kaizen. In this method, a natural work team identify opportunities for improvement by observing work processes. Team meets at the end of the week for selection of a problem as a kaizen event. They try to identify the sources, (root causes) of the problem and give their suggestions to eliminate these sources, Accepted suggestions or implemented to solve the selected problem. Improvements in work process are made during regular working hours without using over time. Special event Kaizen plans for future and then executes. Improvement process takes two to five days and takes place at the work site. Normally workers identify waste in the processes and eliminate this waste as a kaizen event.

### 2.3.3. Process versus Sub process level Kaizen

Mostly, Kaizen make improvements at the sub process level that is at component level work process. These sub process may includes the activities acquiring material from suppliers, processing them into useful product and providing these products to the end user. Gemba Kaizen, referred to as Point Kaizen, is an example of sub process level Kaizen. On the other hand, there is Flow Kaizen or Kaikaku Kaizen, in which

improvement activities takes places as radical change towards betterment at the value stream or business level. Basing on the literature review, Kaizen technique can be summaries as:

- Kaizen is a small incremental change toward betterment (Cheser, 1998).
- It empowers & involves everyone in the organization to participate in problem solving activities (Imai, 1997).
- Cross functional teams are used to achieve these incremental changes (Imai, 1997).
- Kaizen improve methods or standard way of working of an organization through identification and elimination of waste.
- Save money by focusing on small improvements through organization's own workers and spend the saved money on further improvements within the organization (Imai, 1986)
- Ask suggestions for improvement from all the employee of the organization.
- Never stop trying to improve as improvement has no limits.
- Kaizen may be implemented at process or sub process level as a day to day improvement or as a special kaizen event to improve the quality, process and performance of an organization through elimination of waste. It also reduces cost of production and develops human resources of the organization.

### 2.4. Kaizen Techniques under Kaizen Umbrella

The Kaizen umbrella consists of the collection of Japanese tools. The Kaizen umbrella includes the following tools and techniques (Imai, 1986).

- Customer orientation
- Total Quality Control
- Robotics
- QC Circles
- Suggestion systems
- Automation
- Discipline at the workplace
- Total Productive Maintenance
- Kanban
- Just-in-time
- Zero defects
- New product development
- Small group activities
- Productivity improvement
- Statistical Quality Control
- Cooperative labour /management relations

### 2.5. Description of Kaizen Tools & Techniques.

Kaizen practitioners use various tools during kaizen implementation relevant to the area of

application. A brief introduction of these tools is given in table below.



Figure 2: Kaizen Umbrella  
Source: Imai, (1986).

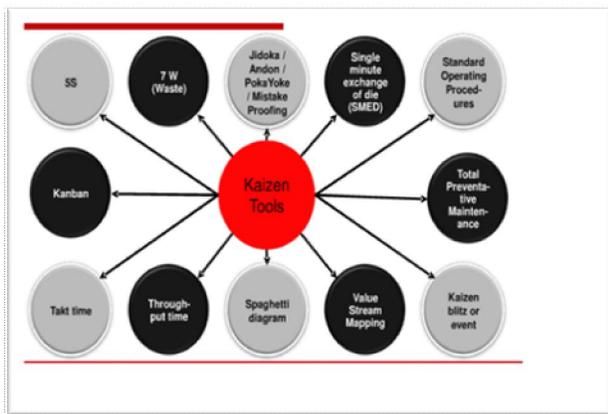


Figure 3: Kaizen Tools and Techniques  
Source: - (Singh & Singh, 2009)



Figure 5: The 7 Wastes  
Source: - Toyota production system

S/No	Name of Tool with brief description
2.5.1	<b>Single Minute Exchange of Die (SMED):</b> Technique which refer to significant reductions in set-up times. In this technique main emphasis is given on reduction in set-up time, like “changeover of die, clamping and unclamping of work piece/die on the machine.
2.5.2	<b>Total Productive Maintenance (TPM):</b> TPM enhance equipment efficiency through establishment of a preventive maintenance system of equipment throughout its working life. It involves and empowers every employee, from shop floor worker to top management to initiate preventive and corrective maintenance activities.
2.5.3	<b>Kanban:</b> Kanban is a specially designed box/container having a kanban card in it, which moves from workstation to store on requirement bases. This Kanban card is a green signal for store to forward material to workstation for processing. Toyota motor used Kanban system to reduce the work in process inventory.
2.5.4	<b>5 S Practice:</b> It is a housekeeping technique. 5 S represents five words in Japanese language (Scotchmer & Andrew, 2008).these words & their meanings are:- <b>Seiri (Sort out):</b> It mean that at workplace all the irrelevant items /things should be sorted out/ removed. <b>Seiton (Set in order):</b> Items should be arranged properly so that they can be identified and approached easily. <b>Seiso (Shine):</b> Shine means cleaning the workplace till it is spic and span. <b>Seiketsu(Standardise)</b> This mean developing and maintaining standard work practices. <b>Shitsuke (Sustain):</b> Sustaining the progress made. To ensure success in 5S, discipline must be maintained. Progress mad in above four points must be maintained.
	<p style="text-align: center;">Kaizen 5S1 framework Workplace Organization</p> <p style="text-align: center;"><b>Figure 4: 5 S Framework</b> Source:- 12manage.com</p>
2.5.5	<b>Poka Yoke/Jidoka:</b> It is mechanisms used to make mistake-proof an entire process Poka-Yokes ensure that proper conditions exist before actually executing a process step. This prevents defects from occurring in the first place. Where this is not possible, Poka-Yokes detect and eliminate defects in the process. Stop the machine when ever problem occurred. This ensures the reliability of the process.
2.5.6	<b>Standardised Work:</b> A work in which the successive activities have been properly structured so that it can be done efficiently, is called standardised work. The aim of standardised work is to bring the process under control by reducing variation. This in tern eradicates wastages and increases the productivity.
2.5.7	<b>Value Stream Mapping:</b> A value stream mapping is a flow diagram of all the activities required to bring a product from raw materials to delivery to the customer. The objective is to identify and get rid of the waste in the process.
2.5.8	<b>Takt time:</b> Takt time is time taken from the receipt of order from customer till the product is hand over to him. It should be minimize through reduction of waste in the processes.
2.5.9	<b>Standard operating procedure:</b> Means standardise all operating procedures for comparison and further improvement purpose.
2.5.10	<b>Kaizen blitz/Kaizen Event:</b> Kaizen event or kaizen Blitz is a focused small incremental improvement projects completed by cross functional team in a limited time frame (Doolen et al, 2008).
2.5.11	<b>7 W (waste):</b> Seven Ws are 7 commonly accepted wastes out of the manufacturing operations. They include waste from over-production, waste of waiting time, transportation waste, inventory waste, over processing waste, waste of motion and waste from production defects.

### 3. Total Quality Management (TQM)

Johnson (1998), define TQM, as *“An ongoing process whereby top management takes whatever steps necessary to enable everyone in the organization in the course of performing all duties to establish and achieve standards which meet or exceed the needs and expectation of their customers, both external and internal.”* Deming prize, describe TQM as: *“A set of systematic activities carried out by the entire organization to effectively and efficiently achieve company objectives so as to provide products and services with a level of quality that satisfies customers, at the appropriate time and price.”* American Federal office of Management Budget Circular define TQM as; *“TQM is a total organizational approach for meeting customer needs and expectations that involves all managers and employees in using quantitative methods to improve continuously the organisation’s processes, products and services”.*

According to Dale (1999), TQM is the mutual co-operation of everyone (management, workers, suppliers, customers) in an organisation and associated business processes to produce products and services, which meet and, hopefully exceed the needs and expectations of customers. TQM is a philosophy and guiding principles of management of an organisation. Quality experts (Deming, 1986; Juran, 1993; Scholtes & Crosby, 1992), are of the opinion that organizations must seek quality improvement in a long term perspective. Wilkinson (1998) argued that TQM emphasised on empowerment of employees which will enhance an organization's efforts to improve the quality of their products /services.

According to Oakland (1998), to meet the challenges of technology and environment continuous training is the most substantial component in quality improvement. According to Juran (1993), both the external customers (clients, government regulatory bodies, and the public) and the internal customer (employees within different departments) are linked with the quality of product/service. External as well as internal customers have their own needs as for as quality is concerned. TQM give importance to satisfying needs of both kinds of customers. In an organization, goal of TQM is to increase both internal as well as external customer satisfaction through continuous improvement (Anderson, Erikson & Torstensson, 2006), Torrington and Hall, 1998; Dale, 1999; Ahire & O'Shaughnessy, 1998), described that Top management has leading role and provide guidance and direction to the other employees within the organization for the successful implementation of TQM. The company in which top management play leading role, produce high quality products as compared to those where top management is not committed to quality objectives of the organization. Supportive organizational culture helps in

implementation of TQM principle. Oakland (2007), described TQM as an effort to improve the whole organisation's competitiveness, effectiveness and structure. This is achieved through involvement of all the persons in all quality improvement activities of the organization. Continuous process improvement is a natural evaluation of TQM (MacDonald, 1995; Chung, 1999). Haapasalo (2008) describe TQM as a Management Philosophy that is collection of quality management methods and techniques. Liu, Wu & Chen, (2010), Describe that TQM pay attention to procedural and structural elements.

Deming (1986) declared that “in God we trust - all others we must use data.” This statement stresses on the importance of data management techniques, tools, and systems. (Goetsch and Davis, 1994), explain the management tools as the means of *“collecting and displaying data in a way that help the human brain to grasp and perceive the thoughts and ideas that, when applied to physical processes, cause the processes to produce better results”.* The important aspects of TQM are identified as TQM principles, concepts, tools and techniques. The TQM tools and techniques are known as Hard aspects while the principles and concepts are refer to the Soft side of TQM. Both are briefly discussed as under:-

#### 3.1 The “Soft” Side of TQM

The “Soft” side of TQM as identified from literature review are given as under:-

- TQM involve all employees at all level of an organization.

- It is continuous improvement Philosophy. Continuous process improvement is a natural evaluation of TQM.

- Continuous training of employee is necessary for the successful implementation of TQM in an organization.

- Top-management commitment and support is an essential element of successful implementation of all the principle of TQM.

- TQM is a customer focused management approach

- TQM is a system approach through a processes management. Processes must be improved to improve the results of an organization.

- Cultural change is necessary for the successful implementation of TQM in organization.

- TQM based on actual data that is a factual approach to decision making. TQM develop a mutually beneficial supplier relationship.

#### 3.2 TQM Tools (Hard aspects of TQM)

Hard aspect of TQM consists of its different tools, techniques and systems (Hanson, 2003). Different tools and technique of TQM commonly found in quality management literature (Hyland P W et al, 2004), are given in table below:-

S/No	Name of Tool with brief description
3.2.1	<b>7 Basic QC Tools:</b> These are seven basic tools used for data collection, data presentation and data analyses, for the improvement of quality of the products and processes. They include Check sheets, Pareto Diagram, Histogram, Control Charts, and Cause & effect diagram. Scatter diagram, Graphs (Ishikawa and Kume, 1985).
3.2.2	<b>Fishbone or Ishakawa Diagram:</b> It is a brain storming method to guess different causes of problems related to each, man, machine, material and method, without using statistical methods.
3.2.3	<b>The Matrix Diagram:</b> This tool is used to grade the relationship among different variables. It encourages them to think in terms of relationships, their strengths, and patterns (Bester field-Michna, & Bester field -Sacre, 1999).
3.2.4	<b>Tree diagram:</b> According to Dale (1999), it is a tool Which arranges targets, problems, or customer's needs in a specific order.
3.2.5	<b>Critical Path Analysis (CPA):</b> CPA seeks to establish a sequential order of activities including time and their priority for the completion of a project, through the use of a network of arrows or nodes.
3.2.6	<b>Statistical Process Control:</b> This tool is used to reduce; both assignable as well as un assignable variation in the process e.g. control charts. It helps the managers to control the production process
3.2.7	<b>Pareto Analysis:</b> Pareto Analysis helps the management teams to identify major 20% causes which are giving 80% variation in the production or service processes. Management team should concentrate on these 20% causes first to improve the quality and performance of the system.
3.2.8	<b>ISO 9000 Series:</b> ISO series is an International standard written by a worldwide organization known as the ISO/Technical Committee 176 (Lamprecht, 1992). This set of standards requirement ensures that a company has a specific quality improvement policy, which makes it more competitive in the market.
3.2.9	<b>Bench marking:</b> It involves selecting a demonstrated standard of product or process, costs or practices that represent the very best performance for processes or activities very similar to the company's own.
3.2.10	<b>Just In Time (JIT):</b> It is one of the cost, time and inventory reduction techniques. It is designed to produce products or deliver services just as and when they are needed
3.2.11	<b>Quality Lost Function(QLF):</b> It identifies all cost associated with poor quality and show how these costs increases as the products / services moves away from being exactly what the customer wants
3.2.12	<b>Quality Function Deployment (QFD):</b> QFD is the process of determining customer's desires/ requirements and translating those desires into the target product design. A graphic, yet systematic technique for defining the relationship between customer desires and the developed product or service is known as House of Quality.

#### 4. Methodology

The methodology adopted for this paper is qualitative and descriptive in nature. As the topic demands the comparative analysis of the TQM and

Kaizen, the theoretical perspective was pertinent to be employed. Viewpoints of different researcher and proponent about TQM Philosophy and Kaizen have been highlighted. Different tools and techniques of both TQM and Kaizen are briefly discussed to analyse the main difference between the two. The sources used for information collection were research papers; Books, online journals and web based links. The analysis is based on the result of through study of literature on these topics.

#### 5. The Relationship between TQM & Kaizen

TQM and Kaizen are interdependent. In the literature, Kaizen-Continuous improvement has been broached as an important element of TQM. Kaizen is one of the reference points in the Deming's 14 points regarding TQM. Deming's point "Improve constantly and forever" infer the need for some sort of continuous improvement methodology such as Kaizen. So this makes Kaizen a subset of TQM

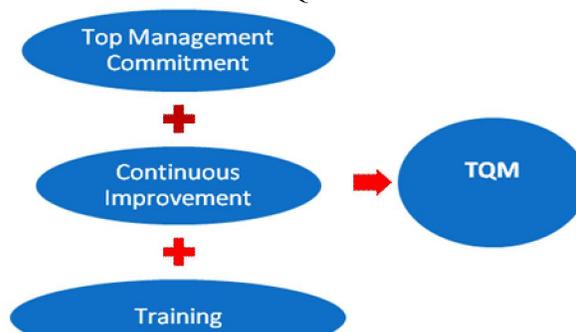


Figure 6: Kaizen as a subset of TQM

Kaizen means continuous process improvement. Some researcher considered continuous processes improvement is a natural evaluation of TQM and CI perspective. Both can be distinguishing as kaizen focused on small and gradual improvements where as TQM involve radical improvement of important and crucial process to get large effects (Davenport & short, 1990). According to literature both concepts are complementary and share same philosophy (Imai, 1986). The best organization always applies both the concept together to get maximum benefits of continuous improvement. Implementation of only one concept will not be so fruitful. The difference between continuous improvement (CI) and Continuous process improvements (CPI) is given in figure below.

#### 6. The Differences between TQM & Kaizen

TQM is a philosophy of what makes up a quality organization, and Kaizen is a methodology that one can apply to encourage improvements to existing processes.

The main differences between the concepts of Kaizen and TQM are highlighted below

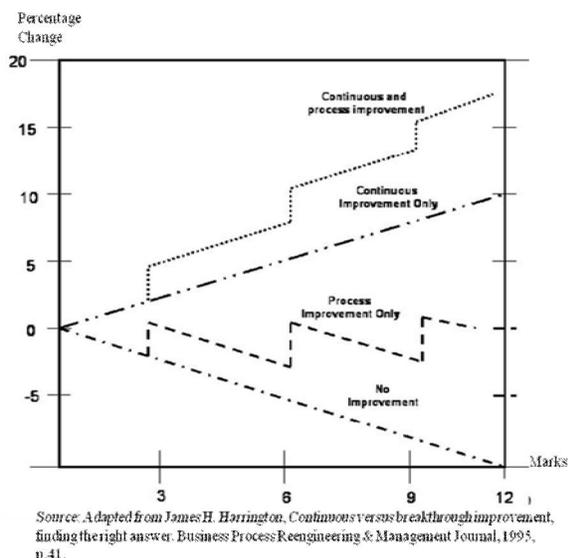


Figure 7, Differences between continuous improvement & Continuous process improvements

**6.1 Definitions**

TQM is a management approach that aims at long-term success by focusing on customer satisfaction, based on the participation of all members of an organization through improvement of quality, processes, services, and the culture in which they work. Whereas, term Kaizen is "to take apart and put back together in a better way". Kaizen is "small incremental but continual improvement" in order to improve process, quality and of course performance of the organization.

**6.2 Focal point**

Kaizen is a process oriented concept. It focuses on the improvement of the process to get improved results in every sphere of life. On the other hand, TQM is a product oriented and customer focus concept. It focuses on the quality of the product to satisfy the customer.

**6.3 The Scope**

Kaizen can apply to encourage improvements to the existing processes. The scope of Kaizen is limited to selected project however; the scope of TQM is spread throughout the organization. It works on every process at every department of an organization all the time for achieving quality product and services.

**6.4 Implementation Method**

Kaizen is implemented in the form of small incremental projects in a selected area in order to make changes in the work standard towards betterment. These

small increment projects are known as kaizen events. Kaizen event can be selected for each department of the organization separately also for each kaizen event independent cross functional team is selected which works on the improvement of one project at a time in focus area for a limited time frame. The workers or the team should work on one process at a time only. Consequently, in TQM improvement is to be made on all the processes in all the business department of the organization involving all the persons at a time.



Figure 8: The different business department of an organization where TQM can be implemented at a time.

**6.5 The Approach**

Kaizen concept follows bottom-up approach. The suggestions for improvement are put forward by the workers. Whereas TQM concept follows both top-down and bottom up approach, the need for improvement is suggested and introduced by top management as well as by the workers of the organization.

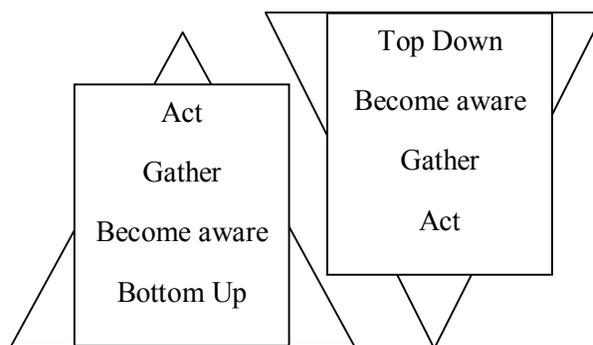


Figure 9: The Approaches of TQM and Kaizen

**6.6 Importance of Resources**

TQM is little more expansive to implement as compared to Kaizen. Kaizen focuses on the improvement within the available resources of the organization (Imai, 1986). It doesn't encourage large investment from the organizational resources for improvement. Whereas, in TQM Investment has to be made to improve the quality of product or process like investment on new or updated machinery e.g. Automation, Innovation etc.

### 6.7 Involvement of People

Kaizen involve all stake holders at all level of the organization when asking suggestions for improvements of the organization, but it does not necessary that everyone in an organization should participate in the improvement project also. The people linked with a particular process on which improvement project is taking place are involved. e.g. cross functional Kaizen team. Whereas in TQM, Whole organization including all employees at all levels are responsible and involved in improvement of quality of the product at all time.

### 6.8 Implementation Mechanism

Kaizen focuses on step by step improvement. While TQM focuses on simultaneous operations in all the processes In TQM sustain and improvement goes parallel to each other. Another difference between the two concepts is that, in Total Quality Management there is no discontinuity in the process of continuous improvement, the whole organization should always work on the improvement process. On the other hand, Kaizen focus on small scale improvements in steps. After every step, there lies a discontinuity for sustaining the improvement, afterwards the process continues toward the second step and so on. This is called continual improvement

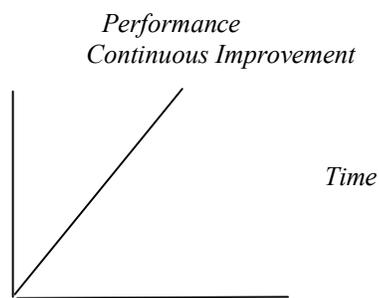


Figure.10 Continuous Improvement in TQM

### 6.9 Improvement Strategy

Kaizen strategy is made for small permanent improvements in processes. However, TQM focuses on long term improvements. TQM means organized Kaizen activities involving everyone in a company, managers and workers in a totally universal and integrated effort toward improving performance at every level.

### 6.10. Improvement of Quality

Kaizen and TQM both deal with the quality. TQM focuses on improving quality by value addition, making the product perfect, improving productivity, reducing the variation in measurements, and processes while Kaizen focuses on improving quality through small incremental changes in processes, and workplace result in reduction in different types of wastes.

### 6.11 Improvement through Innovation

TQM involves continuous improvement of process through kaizen and innovation Whereas Kaizen philosophy stresses on continual improvements in existing standards rather than innovation. This process leads to better utilization of R & D resources of a company and better productivity.

### 6.12. Decision Making

Quality decisions are made based on measurements in case of TQM. After the decision is implemented, the output is compared with the standards, but in Kaizen, decisions are made, when an employee makes errors in his job, it is not seen as an occasion to blame, but is seen as a chance to find out what went wrong with the process. The continuous improvement by removing the errors and minimizing the chances of reoccurrence is the baseline to make the decisions in Kaizen

### 7. Summary TQM & Kaizen

- To get maximum advantages, knowledge of both TQM and Kaizen concepts is necessary for the workers, middle management and top management of the organization.
- Continuous improvement of quality should be the concern of every one in an organization. Training should be imparted to every employee regarding how to continuously improve the quality, process and performance of the organization using both the concept.
- There should be a brainstorming on the level of problem that occurred in the process, so that the pertinent improvement mechanism should be evolved and implemented.
- The effect of Kaizen activities should be circulated to the whole organization, so that it should work as a motivator for the top management and employees to carry out further improvements.

### 8. Conclusion

There is ample of literature available on the TQM philosophy and Kaizen concept. But very less has been talked about the relationship between the two concepts. So there was need to elaborate the relationship and main differences between these two concepts for the purpose of implementation. Although, in the literature the philosophers and experts do have differences of opinion regarding the difference between TQM and Kaizen, Yet an effort was put in to extract few main differences on the basis of the literature and concepts given by the experts. A selected researchers consider both as the tool of continuous improvement and can be compared while others consider continuous improvement and kaizen as a

part of Total Quality Management. It is evident from the literature that Kaizen or continuous improvement is one of the points in the TQM model by Deming. In spite of differences in the methodology of continuous improvement, focus of improvement, scale of operations, etc in both the concepts, it can be concluded that the Kaizen is one of the technique of TQM for continual improvement of process, quality and performance along with the development of human resource of the organization.

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