

## Use of Kaizen for Quality Enhancement in Business-A Cost-cutting Tool

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### Abstract

*This research paper has taken up the correlation study of three different HRD interventions with the quality of output in business process. These HRD interventions include Employee adaptation process, Continuous Skill up-gradation using team learning and guidance by coworkers. The process waste in activities has been taken up as a moderator that boosts up the cost of maintaining quality in output. In order to cut down the cost of maintaining quality process waste should be eliminated and Kaizen approach should be used in HRD strategies.*

*This research has applied Poornema's(2003) Model of Kaizen approach i.e individual orientated Kaizen, group oriented Kaizen and management oriented Kaizen, to HRD(adaptation and Skill up-gradation) in order to introduce quality in business on sustainable basis. It is a secondary that attempts to establish the proposed model through analysis of two case studies taken from two different industries.*

*The final part of the paper suggests certain recommendations including frequent orientation of the managers, eliminating process waste and rotation of the team members for learning and adaptation purpose, as a solution to the cost problem associated with maintaining quality as a norm.*

**Keywords:** *Quality, Kaizen, Employee adaptation, Employee orientation, HR process waste*

### Introduction

Quality enhancement in business is a time consuming and complex process which becomes inevitable at a stage when an organization needs a life saving resort. The dread of the process for the management could be minimized if quality enhancement interventions are administered at smaller scale minimizing risk involved.

Introduction of new quality standards are seen as a threat to the existing structure of the organization. To a certain extent it may be true as it may demand a change in role affecting a specific job. The concept of quality is at the core of most of the Organizational Development interventions and any company planning for sustainable development has to consider quality review at all the phases of task flow within the organization and finally in the output. Achieving quality in product or services by any business invariably cause a chain reaction starting from input, processes involving quality check of material resources and Human Resource(HR) and finally appearing in the form of improved quality level of the output.

Quality enhancement is directly proportional to the capital cost involved for the purpose. This study takes into consideration the Human Resource(HR) factor of Quality input, because material related quality depends upon amount of capital used for purchase of that material and only negotiation can reduce this cost. In case of HR a highly qualified good professional may not be able to deliver to the level required unless and until they are attuned to the organizational environment. Employee performance improves as he/she adjust his/herself to the flow of processes. Employee related quality management has two major aspects i.e-procedural and output. In both these cases individuals' adaptation to the changing environment due to change in procedure or in quality level of the output, is key to success of such interventions. Maintaining quality standards on sustainable basis becomes a costly and tedious phenomenon when each time employer has to make deliberate efforts to remind the employees of the set quality standards. There is a greater tendency that these may be overlooked every now and then and Hence, has to be reinforced each time a process is initiated.

The assumption of this study is that the orientation of the employees leading to higher quality output results in reduced waste in the process and hence, cutting down the expenditure involved in generating a specific output. Keeping these aspects in view this study has focused on establishing the following theoretical construct through secondary research using Poornema's three pronged model of Kaizen-

***Hypothesis 1: The Use of Kaizen for quality improvement results in faster skill development and adaptability of the employees causing increased efficiency of the employees***

***Hypothesis 2: Eliminating the process waste in the HR activities would reduce the process cost and time involved***

The dependent variables of this study are the time and cost required for task flow to establish final output of an assignment. The independent variables are the employee development through continuous improvement of work patterns and adaptation to changes in process and environment. Both of these interventions reduces wastage of HR during the process and increases control on estimation of the resource usage at the initial phase of project engagement. In this case Kaizen can be used as a tool to introduce quality in performance on sustainable basis. The relationship between quality and cost is direct just as in case of quality and time, but Kaizen is the strategy that manipulates this relationship causing in reduction of time and cost in the longer run on sustainable grounds.

Adaptation to the work environment is a new factor that has been added to the range of employee development interventions(not mentioned in this study). This means that the organizations striving to integrate quality in their business processes and in their output i.e services and products, these organizations should not only attend to improving the skills of their staff through continuous improvement, but should also facilitate their adaptation to the environmental changes that may occur due to changes in strategies.

According to Cartin(1998), Quality Management in the past was related to the functional aspect of the business process. In the present management concepts, every staff member is supposed to contribute to the process leading to delivering of output. Any improvement in quality requires improved knowledge, improved set of skills, re-education on quality standards and finally, trainings oriented towards output improvement. Cartin comments on quality from HR perspective as-

“Quality management in the past meant the management of a functional organization responsible for the quality activities. It now includes the quality aspects of everyone's work in the overall organization, plus those of the customers and suppliers. This requires new knowledge and skills, reeducation and training. With change expected to continue, reeducation and training should never end.” (1998)

Initially, understanding the quality standards and evaluating the process was the responsibility of the Managers only and hence, therefore, when an organization would resort to introduce certain quality standards, they would focus on training of the managerial cadre only. Today, the sphere of the training activities has been extended to the lower staff also, with the understanding that it would optimize the process of task flow and finally, contributing to the quality of output. Currently, quality is not just considered as introduction of control measures, but the main thrust is upon changing the management style within the organization. Cascio explains achievement of quality enhancement in organizational output through integrating quality in HR strategies for selection and training program(2000, p. 609). In order to attain quality in product and services, Charanthimath deliberates that the company must take into account the in-process performance of the employees' that impacts its products and services, in addition to their competency and knowledge required for a specific task (2003).

It is worth mentioning that at times the other coworkers do not provide sufficient feedback on the performance of the employees, thinking that by doing so their relations would be strained with their coworkers. But these coworkers forget that they all are part of a team and any short-coming in the quality and pace of one team member would affect the performance of the whole team. In such cases these employees must be trained for attitudinal change in their approach towards work. At times the employee may be punctual and putting lot of efforts at work but this may have little contribution towards improved quality in out and services. Such cases would require a planned debriefing by the manager about their performance so as to avoid the grievances that may arouse later on.

While discussing Japanese companies Dahlgaard and Park (2011) and Suárez-Barraza, Ramis-Pujol, and Heras (2010) highlighted that most of the Japanese companies are focused on those methodologies, tools and techniques of management where all the workers are engaged in trainings and attention is paid to change their attitude towards adopting tools of improvement. This also establishes the fact that without the change in attitude, change in business activities cannot be implemented on permanent basis. And a permanent

change in attitude means adaptation to the new work patterns and environment. In case of such interventions Kaizen proves to be an effective strategy. According to Wendell et al.(2008) in order to be able to effective response to clients problems, the client responsive system should continuously up-grade their skills through self-analytical methods.

When our concern is sustainable improvement then Kaizen should not be taken as a business strategy, but should be incorporated in the culture of the organization as a value. In order to apply Kaizen to the HR aspect of the organization this study has taken Poornema's model given for HR development. Following is an overview of this model in order to develop a baseline understanding for further presenting the arguments of this study.

### ***1.Kaizen- A quality improvement strategy***

Kaizen means continuous Improvement for a long-term, lasting and preplanned change. Charanthimath (2003) has identified certain important characteristics of Kaizen that include improvement in small steps as incremental change. it is constant and everybody is involved in the process. Change towards improvement as it is, makes Kaizen a stable and more sustainable OD intervention.

In addition to these, Kaizen is also characterized by using different approaches that include collectivism, group efforts and systems approach. It evolves from conventional know-how to the state of the art ideology and is based on the concept of retaining each level of quality that had been achieved by substantiating it through further improvement in it.

In the process of Kaizen, with the major role as that of the people, all the processes and efforts are directed towards improved output in comparison to the previous output. This kind of approach works well in slow growing economy or when the organization has sufficient time to prepare for anticipated challenges. But this approach has to be adopted when the change needs to be institutionalized irrespective of the type of economic environment. While appreciating the '5S' of Kaizen Gapp et.al.(2008), shared similar comments that this methodology is best for promoting change in attitude at workplace in order to engage in improvement activities. .Charanthimath (2003) has split the concept of Kaizen into three categories that includes:

1. Management–Oriented Kaizen
2. Group-Oriented Kaizen
3. Individual–Oriented Kaizen

To further evaluate the inter-dependence between the role of HRD(i.e adaptation and skill development) and achieving the Quality standard in any process or business; we will analyze each of these categories of Kaizen in the light of its impact on HRD interventions.

#### ***1.1. Management Oriented Kaizen***

Considering the first category that is Management–Oriented Kaizen which is strategic in nature and provides impetus to keep the process moving, we find that the focus is upon the improvement of the managerial competencies of the organization. In this type of Kaizen the manager is also expected to work on the improvement of his own output as much as he expects from his subordinates. Chatanthimath (2003) has suggested that this improvement is characterized by prevention strategy rather than rectification, i.e, working on identification of wastes in the functional process. This means that if these wastes are identified and eliminated it would reduce the cost of the flow of task as well as the time required to complete the task besides improving the quality level of the output.

At this point the wastes mean those efforts and resources used in the process that adds financial weight to the output resulted from that process. The manager along with his team works on the system improvement in order to optimize the use of the resources in the light of the output of the process. Optimization of resources is not just for material resources but Human Resource is the major component that is considered for optimization during the process activities. Such kind of management strategy requires continuous investigation and adaptation, in addition to up-gradation of skills. This is based on the concept of

system thinking<sup>1</sup> which means that the functioning of the parts are seen as integrated in a whole system and not as independent events.

### ***1.2. Group – Oriented Kaizen***

Group – Oriented Kaizen implies that the improvement process is focused in those activities that are carried out in the form of small groups which are either permanent or non-permanent, normally referred as Quality Control Circles.

According to Charanthimat(2003), such groups, when are permanent require to follow the PDCA (Plan-Do-Check-Action) cycle, where the team members identify the problem and its causes through analysis. This is then followed by design and implementation of the measures to counter the problem. To carry out these tasks the members are trained in use of different quality control tools and procedures. Small group activities may also be carried out through temporary groups that are usually on voluntary basis. The members of these groups are trained for carrying out their specific task. During the process, the development of group members take place not only formally using external sources (i.e formal trainings), but also informally by the use of internal sources( i.e the group members act as mentors for each other). The individual potential of the members become the cumulative potential of the group, and learning from each other further enhances this cumulative potential of the team. During such processes the members may also learn new skills and knowledge and develop more cooperative attitude.

The trainings conducted in Group-Oriented Kaizen are normally focused on the requirement of a specific task assigned to that specific group. According to Poornema (2003) that competence level of all those employees should be enhanced who are expected to contribute to the quality of output, and these may also include the associated vendor and consultants' employees. This is a comprehensive approach towards enhancing skills.

In case of non-permanent groups, even when the band disintegrate the members takes the newly developed skills back to their work places resulting in improved quality of their output on next assignment. This show that though the focus is on improving the quality of the group output through skill enhancement, it later on contributes to overall organizational development in the longer run. According to Towers-  
“Encouraging employees to become their own quality controllers, implementing total quality programmes, team building, or introducing and sustaining a quality culture in the organization has a far reaching implication for the training and development of the whole work force “(1998).

We see that throughout the process during the implementation of the quality interventions the group-oriented Kaizen is focused upon the improvement of the competencies of the members as teams. This itself becomes a source of development of the staff skills and abilities in order to adjust to the newly adopted process and hence, making it more sustainable. For the next assignments, this trained staff when are grouped with new members, they form a different combination of capabilities making them more versatile. Such group members having hands on experience which they bring from the previous assignment are more efficient and effective to handle quality control issues and therefore, are helpful in reducing the cost of the process.

### ***1.3. Individual- Oriented Kaizen***

Individual-Oriented Kaizen is integrated in the processes through suggestion/feedback systems of the organization. It is a source of numerous innovative ideas and options identifying opportunities for improvement, but it requires management attention and responsiveness. It is a system through which organizations encourage individuals for practicing innovation and creativity. Charanthimath (2003) comments that such kind of feedback includes suggestion, i.e improvement in one's own work, improvement in working environment, improvement in product quality etc. According to Chatanthimath “Individual-oriented improvement has almost infinite opportunities and it often acts as a morale booster. At

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<sup>1</sup>System thinking is one of the five major concepts of Senge's Model(1965) for Learning Organization according to which every process and output is considered as an integral part of a complete whole and no process exists in isolation.

the same time, the management does not always ask for immediate economic payback on each suggestion (2003).

In most of the individual-oriented Kaizen the improvements considered are those such as improvement in skills, increasing awareness, developing new attitude and enhancing perceptions etc. In many of such cases career development becomes a source of motivation in improving the quality of individual's performance. This means that individual oriented Kaizen also focuses on enhancement of individuals' work capacity through up-gradation of existing and development of new skills. The role of Individual-Oriented Kaizen is to promote innovation and creativity and these are the factors that invariably induce quality in the organization's business and its processes. Simultaneously, the improvement process in individuals' work patterns means effective and efficient task flow again reducing the process waste and making it cost effective.

The above discourse leads to the accomplishment of the fact that any kind of improvement within the organizational functions would immediately require planning for HRD as its initial step. While explaining the different stages of Concurrent Engineering(CE) Cartin(1998) comments that once the organization decide to initiate the process of improvement then training and development becomes imperative for achievement of a number of stages.

Altink in his review of Developing Human Resource (Nadler and Nadler) says that, HRD is described as an organized learning experience provided by the employer in a specified time in order to enhance the performance of the employees and at the same time is utilized in their career growth (1993).

## ***2. Adaptation and Processes Waste***

When the process indicates duplication of activities even if it is for a different purpose, still it incurs extra cost. This extra cost could be reduced if all the relevant tasks are organized in such a way that these are all carried out simultaneously. To understand the process waste in terms of HR we have included an analytical review of two cases studies taken from different sectors. The purpose of this kind of analysis is to cross check the fact that such kind of waste can be present in any process irrespective of the industry and the identification of such waste can make the process cost effective. .

### ***2.1 Case Study 1:Aston University(Marlene;1995)***

Following 1970s, due to server financial pressure the business graph of Aston University dropped creating a concern for the management about the quality of services provided by it which failed to attract new students (Marlene, 1995). According to Marlene, Aston University resorted to adopting the quality circle technique for reviving the declining business (1995). Aston University deputed lot of resources for improving overall quality in processes and output, and has put in place a complex structure to accomplish the targets of these new interventions. They put in place a system of concentric circles of quality to crosscheck the task of each inner circle by its outer circle in order to avoid accidental errors.

This case study reflects that all these efforts must have raised the cost of considering the improvement of quality in education. The complex structure devised for quality checks also reflects the duplication of activities making the process time consuming. In both these scenarios there is wastage of HR during the process through duplication by repeating the same kind of task over and again by the subsequent circles of quality and by keeping these circles of quality as external entities to one another maintained only for quality checks. This reflects that such quality intervention would never become part of the routine process and would always be seen as external activity to the task flow of a process, and therefore, it would never be institutionalized.

In such a process, adaptation of those employees who are actually engaged in the different steps of the task flow to this newly created environment, as caused by quality interventions was not being promoted. Introducing any change in the process with disregard for the change in the employee attitude would more likely result in hesitation among them. At this stage if the University management would have taken measure to expedite the process of employee adaptation, then it would have reduce the performance risk associated with the exposure to procedural changes. When such adaptation process is left to natural course of time, the employees take longer to adjust themselves to the changes. Though temporarily, but it results in

slowing down of activities and lowering of performance level during that period. It is considered real test of patience for the managers who are enthusiastic about getting timely results.

It is this period that the newly introduced changes have the tendency to lose its shape and revert back to the previous condition. Hence, if the adaptation process is expedited then the chances are high that the change becomes permanent.

## ***2.2 Case Study 2 :Construction Project at St. Pancras Railway Station London(Stewart and Spencer,2006)***

Another case study analyzed by this research was that of the construction project. The purpose of taking a different sector was to check if the results could be generalized or not. This case study was about the construction project at St. Pancras raised railway station in London UK (Stewart and Spencer, 2006). The project was about channel tunnel rail link for the east and west extension deck. In this case the east deck was studied. This deck was to be built upon beams and the team had to deliver the structure in a specified time.

The assessment of the project at an initial stage showed that the beam construction process was lagging behind. Such a delay meant a rise in project expenditure due to, 1) additional cost of labor and equipment required to accelerate the project, 2) additional cost of maintenance of labor and equipment on the site due to overdue period, 3) slowing down or delay of the follow-on activities and 4) the penalty incurred for the late delivery of the project. In order to identify the problem a detailed cause and effect analysis was carried out which reflected gaps in the preceding activities of the beam construction process. These activities included road diversion, site access, utilities, piling, pile cap, column which was carried out by different teams.

It was identified that lack of proper coordination of these teams resulted in delays which affected the beam construction process. This lack of coordination was due to inefficient communication between the teams and an individualistic approach to the work by these departments. According to Stewart and Spencer (2006) "The departmentalization of the project, in effect, led to counterproductive fragmentation in the overall scheme of the project." This means that each team though it comprised of professionals never bothered to create channels of communication that would lead to creating an environment where all the teams and their members would feel the relevance of their output to each other's output.

In this case, a study primarily carried out on the application of six sigma to the construction project assessed that this intervention as a series of well coordinated activities having all the checks and balances in place. And hence they placed PIPs for all the departments for this purpose. Adding of PIP meant an increased set of activities to monitor the quality. This additional role was highlighted by Stewart and Spencer as "The PIP team's next task was to sit down with the appropriate lead departments to have these issues rectified and most importantly communicated back to the site operatives so that improvements could be made"(2006). Here, it is important to note that enhancement of quality (additional activities) means extra cost. In this case if a little time would have been spent on adaptation of members of one team to the members of those other teams, that would have eliminated the individualistic approach to work by different teams/departments. And therefore, the managers and the employees would have developed a clear perception of their role/tasks in the final output of the project. In this case PIP was a short run solution bearing fizzling out effects for any later engagements of those employees.

While listing out the contributing factors that lead to success of the quality interventions, Cartin(1998) has highlighted Training and Development of the individuals and teams as one of the crucial factors to maximize the impact of such kind of improvement strategies. According to Knowles, HRD carries a much deeper meaning than simple reference to a training or in-service education or management development or man power development as it is commonly understood (1974).

## ***3. Recommendations***

Organizational Development interventions are normally resorted to when the organizations decide to bring sustainability in their business. Rinke(2004) argues that it is important that a system must be developed that should harness the energies of all team members all the time in order to continuously improve the quality in business. Many internal and external factors play a vital role in the sustainability of the business. The

external factors that exist in the environment include the economic stability where the market exists, social and political stability of the region, security, govt. policies related to business and trade, International policies of that specific country and of international community, in addition to the natural demand and supply pressures in the market. The internal factors comprises of organizational capability to effectively respond to the aforementioned external factors and pressure of customer retention. In this case, the capability of an organization is the embedded potential in Human Resource, technology and financial power. Among these different resources, Human Resource capabilities of an organization directly impact the quality standards of output and are highly contingent upon variations in external forces. At the same time, HR capabilities are also source of customer retention. Jaca et al.(2014) while appreciating the 5S technology also stresses on the change in attitude of the employees before engaging them in continuous improvement strategy.

As discussed earlier when an organization plans for quality improvement in business across the board then enhancing capabilities of HR becomes imperative. Kaizen-continuous improvement in HR capabilities has different perspectives i.e trainings, mentoring, job enrichment, job enlargement etc. Stewart and Spencer(2006) while highlighting firms capacity in terms of HR say “ Firms need to build on their competitive strengths through a deliberate and managed process to improve the capacity and effectiveness of the industry and to support sustained national economic and social objectives”.

This study revolves around the adaptation of the employees which is founded on the understanding of the job requirements and work environment. Kaizen is the tool that ensures that the process of such adaptability continues for the sustainable growth of the organization and for incurring less cost on HR development. Understanding the problem of high cost associated with slow or weak capability of adaptation of an average employee, we present the following recommendations that would facilitate to overcome the issue-

### ***3.1 Frequent Orientation of the managers***

Frequent orientation of the managers about the key concepts and strategy as highlighted in the vision and mission of the organization alongside with their teams is required so as to instill that vision in the value system of that organization. This would automatically boost their adaptability to the changing circumstances as the vision would be in focus all time. Once the employees become attuned with frequently adapting themselves with the changes, then the organization do not have to spend on training or initiating change process (a costly activity) and hence, would help in cutting the overall cost of business. According to Chen et al.(2010), when every employee is involved in small improvement ideas for work patterns then the tasks flows efficiently and work becomes enjoyable.

### ***3.2 Rotation of team members***

When the task is assigned to teams the efforts and skills of the team members are combined to achieve that task. In the process they learn from each other and continuously upgrade their skills. After accomplishment of that task when a new team is formed they again go through the same process. Initially, this may create discomfort for some team members, but when the process continues the members develop the capability of changing rapidly to adjust to the new team environment. Therefore, time to time rotation of the team members among different implementation teams would enhance the adaptability of the members.

### ***3.3 Eliminating Process waste***

As observed in the case of Aston university and Pancras railway station, when quality checking teams were introduced to ensure error free output, we saw that those circles were cross checking the work of each inner circle (in case of Aston) and PIPs were monitoring the work of the teams(in case of Pancras railway station). This had definitely resulted in ensuring the required level of quality in output, but parallel to regular supervision process a similar work was repeated at another successive stage, where putting in additional time and efforts appears to be an overly excessive use of resources, because the same job could have been done at the preceding stage while supervising the activities. The identification of the waste in HR process at initial stage is important and could only be pinpointed once implementation starts. Replication of similar tasks within the same process also creates frustration among the employees which ultimately becomes the cause of de-motivation.

At that stage if the team members who are assigned the task are monitored closely for a certain period where they adjust to the changed work patterns then such a process waste could be conveniently eliminated. The reason why a specific period is assigned to close monitoring at this stage is that during this period the employee get attuned to that new process.

When employees get in habit of continuously improving their work patterns the processes becomes more and more efficient reducing the cost incurred on the activities. In such cases the quality level thereof targeted is institutionalized and becomes the permanent habit/in work pattern of the employees.

#### Way forward-

This study was established through secondary sources, it is therefore, strongly suggested that quantitative aspect may be added to further strengthen these results. A further identification of the sub-factors for the key variables at play would create more convenience in formulation of an implementable strategy for any business.

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