International Journal of Research in Engineering, Science and Management
Volume-2, Issue-6, June-2019
www.ijresm.com | ISSN (Online): 2581-5792

Quality Circles the Medium to Enhance Productivity Levels

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***Abstract*: We have entered in a critical period of our nation's labor history. Archaic patterns of labor management conflict are vituperating as employers and employees of the management discover the power of team work and spirit. Leading companies of U.S and Japan have sought to improve quality and productivity had experimented with various forms of employee involvement in an effort to sustain a competitive edge. A 1982 study by New York stock exchange showed in U.S almost 44 percent of all companies with more than 500 employees had quality-circle programs and in 1988 study by the U.S General Accounting Office almost 9 million full time employees are involved in some type of employee involvement committee program. The major research areas are 1) To ensure harmonious relationship between Quality circles of management 2) To delineate problem between solving process 3) To explore the problems that major developing countries like U.S, Japan companies typically encounter in implementing quality circles. Important Case Studies are discussed. The findings of the research indicate that successful implementation of quality circles requires a specific set of organizational characteristics. Further there are seven basic improvement tools those circles: Cause and effect diagrams (called Ishwaka or "fishbone" diagrams), Pareto charts, process mapping, and data gathering tools such as check sheets , graphical tools as histograms , frequency diagrams , spot charts, pie charts run charts control charts , scatter plots and correlation analysis , flowcharts. So the research emphasis on the advantage of continuity of quality circles as it remains intact from project to project.**

***Keywords*: Quality Circles, management.**

1. Introduction

If you want to involve employees more in decision making and shift the organization towards more participative culture, starting suggestion groups called quality circles seems to be risk free to begin. Changing quality circle into an institutionalized participative structure involves making many changes in important feature of the organization that do not naturally flow from the implementation of a circle program. The research discusses the various threats in which organization must survive and then outline the most effective uses that managers can make of them.

2. The quality circle phenomenon

The quality circle programs that managers have implemented in the United states follow a similar pattern. Usually managements fine tune the quality circle approach to suit their needs. The number of circles, the amount of training, the size groups, and whether the supervisor serves as the facilitator vary among companies.

It is interesting to contrast quality circles in the United States with those in Japan and with the suggestion groups that companies Scanlon plans and other gain sharing plans have used for several decades. Although American and Japanese Q.C programs are very similar, several important differences exist. Programs in Japan give greater emphasis to statistical quality control; employees often meet their own time rather than on company time and finally in Japan all company employees usually receive a financial bonus for the performance of the organization.

3. Developing a Q.C Program

Like virtually any planned organizational change effort, quality circles go through a series of stages in their growth. Each phase contains its own key activities as well as its own threats to the program (see Exhibit I). The time it takes to go through each phase varies, but almost without exception every QC program we studied that survives the threats of the first stage moves into the second stage, and so forth. They rarely skip stages or stuck upon one another.

A. Startup phase

During the start-up phase, few serious threats to the program arise. The worst are an insufficient number of volunteers, inadequate training, inability of volunteers to learn the procedures, and, finally, lack of funding for meetings, facilitator time, and training.

Because many consulting firms offer good training packages for QC program participants, because costs aren't high, and because most people like to participate in problem-solving groups, most organizations are able to deal effectively with the threats during the start-up phase. As decades of research have pointed out, people want to contribute to the company they work for and want to participate in decision making.

B. Initial problem solving

Once people in circles are trained and officially sanctioned, they turn to problem solving. It is at this point that they identify the problems they are going to work on and begin to come up with solutions. As in the initial phase, few serious threats to the

continued existence of the program occur at this stage. Some groups get in trouble because they are unable to agree on which problem to tackle. This is particularly likely when representatives from different areas make up the group and no tractable issue affects everyone. Nevertheless, most groups do identify common concerns and begin to problem solve.

Exhibit I Phases of a circle's life

Phase	Activity	Destructive forces
Start-up	Publicize Obtain funds and volunteers Train	Low volunteer rate Inadequate funding Inability to learn group-process and problem-solving skills
Initial problem solving	Identify and solve problems	Disagreement on problems Lack of knowledge of operations
Approval of initial suggestions	Present and have initial suggestions accepted	Resistance by staff groups and middle management Poor presentation and suggestions because of limited knowledge
Implementation	Relevant groups act on suggestions	Prohibitive costs Resistance by groups that must implement
Expansion of problem solving	Form new groups Old groups continue	Member-nonmember conflict Raised aspirations Lack of problems Expense of parallel organization Savings not realized Rewards wanted
Decline	Fewer groups meet	Cynicism about program Burnout

C. Presentations and approval of solutions

Because quality circles form a parallel structure, the group must report its solutions back to decision makers in the line organization. This report-back activity is very important. The reports must be relevant and thorough, and the line organization must respond quickly, knowledgeably, and in most cases, positively. It is during this phase that the typical QC program first encounters serious threats to its continuation.

Usually the people who have to accept and act on the ideas the circle generates are middle-level managers, most of whom have no role in the quality circle and little experience either soliciting or responding to ideas from subordinates. They may be uncomfortable listening to ideas that they feel they should have thought of themselves or that will change their own work activities. Also, they may be too busy. In any event, not surprisingly, these middle managers often resist the new ideas; they either formally reject them or take a long time to respond.

Because of the time and resources invested in the program and because middle managers know that the program will lose its momentum if they don't accept the ideas, managers feel a great deal of pressure to accept the initial suggestions. In fact, we have even seen situations in which top management has ordered middle management to accept all initial suggestions. Such situations heighten bad feelings about the process. Middle managers then receive subsequent ideas far less positively. Often, a clear rejection is better than what happens to suggestions in some cases. After the quality circles make their suggestions, the people to whom they are presented sometimes do literally nothing.

If in a high percentage of cases managers react negatively, or not at all, to circle suggestions, the program usually ends. The people in the group become discouraged and stop meeting. The quality circle participants get discouraged and feel that the program is a sham, a waste of time, and a management trick. If, however, middle managers accept the ideas, the program moves on to the next phase.

D. Implement of solutions

In most organizations, approval does not mean implementation. Indeed, time after time we found situations where managers accepted many of the initial ideas with great fanfare but didn't implement them. The result was a serious loss of credibility of both the program and management.

Implementing ideas often involves the cooperation of many people and, of course, requires money and manpower. As we noted earlier, in many cases the people who are in charge of putting the circle's ideas into action are not involved in the group's initial activities and therefore have little investment in them. In addition, only those individuals who develop the ideas, not those who implement them, receive recognition and rewards. Time is also a factor. Staff engineering groups, maintenance people, and middle managers are often faced with a choice between continuing their normal activities and picking up on ideas that the QC groups have suggested. Unless they are willing to put their regular duties aside, these organization members will never implement the ideas.

Official approval of their ideas may please participants but isn't enough to motivate them to come up with new ideas. People need to see their ideas in action and to receive feedback on how they are working out. Because it is so hard to effect change in organizations, a significant percentage of QC programs end at this point. In some cases, however, some of the ideas from the program are implemented and produce large savings. In these situations, the program moves on to the next phase.

E. Expansion and continued problem solving

During this phase the program is often expanded to include new groups, and old groups are either phased out or told to work on additional problems. In general, if the program gets this far, management has committed a considerable amount of resources to it and it has become a part of the organization. Threats to continuation do, however, appear during this phase. Simply reaching this phase provides no guarantee that the program will continue.

Problems that confront a program at this point are many and varied. Some of them are a product of the initial success of the program, while others are related to the fact that the circles are a program that requires a parallel organizational structure.

The initial success of the program spurs formerly disinterested people to want to get into a circle. Nonparticipants

become jealous of circle members and wonder why they cannot have the luxury of meeting and solving problems during work hours. They also resent the recognition and status successful circle members receive. To a degree, managers can meet this issue by expanding the number of groups to include more people, but almost always an insider-outsider culture arises.

Success of the first groups may also raise group members' aspirations. These increased hopes can take several forms. They may, for example, lead people to desire greater upward career mobility as well as additional training. Also, circle members often become uncomfortable with the split between the way they are treated in quality circle meetings and how they are treated in the day-to-day operations of the organization. As their desire for influence rises they may ask for more participation in managing the daily work of the organization.

Having initially picked off the easiest problems to solve, some groups run out of problems. They then find themselves in a situation where, with the limited charter and training they have, they can do little more. At this point, the circle may simply go out of existence or take on other areas—even those beyond its mandate.

The initial success may also lead participants to ask for financial rewards. They are particularly likely to do this when management talks about the great savings the circles have produced for the organization. In the American culture, people who have contributed to gains perceive that they have the right to share in them. Management can deal with this issue through various financial sharing plans, but to do so require changing the basic structure of the quality circle program.

Expanding the program may boost its price tag. The need for training time rises, as does the need for time to coordinate, facilitate, and meet. All this costs a great deal, and ultimately many managers question whether the savings justify the expense. Unfortunately, when executives try to document the savings from the early QC ideas, they often turn out to be smaller than originally estimated. It often turns out of just how much it was going to save and, indeed, may have rewarded people for projected, rather than actual, savings. Disappointment over the actual savings from early ideas and the significant expense of running the QC program often combine to provide the single most serious threat to its continued existence.

Given the many forces and pressures that develop during this phase, it is not surprising that the typical program either begins to decline or becomes a different kind of program at this point.

F. Decline stage

Few QC programs turn into other kinds of programs; more commonly, decline sets in. During this period, groups meet less often, they become less productive, and the resources committed to the program dwindle. The main reason the groups continue at all is because of the social satisfaction and pleasure the members experience rather than the groups' problem-solving effectiveness. As managers begin to recognize this, they cut back further on resources. As a result, the program shrinks. The people who all along have resisted the program recognize that it is less powerful than it once was, and they openly reject and resist the ideas it generates. The combination of overt resistance from middle managers and staff, budget cuts, and participants' waning enthusiasm usually precipitates the decline of the QC program.

In summary, then, circles encounter many threats to their continued existence. Because of these threats, it is not likely that managers will institutionalize and sustain programs over a long time. Ironically, circles contain in their initial design many of the elements that lead to their elimination and destruction. This raises the issue of how, if at all, executives can effectively use quality circles.

4. Using out best quality circles

A. Group suggestion program

Quality circle programs can effectively collect the ideas of the individuals closest to the work. If management has no interest in shifting its style toward participation or in creating an elaborate parallel structure, it can create quality circles, capture the ideas they produce, and then stop them. This approach recognizes the strengths and limitations of the circle process and capitalizes on them. It relies on the initial enthusiasm and knowledge of workers who get an opportunity to meet and make suggestions. It recognizes that circle programs are difficult to maintain and therefore plans for their being phased out.

B. Special projects

Executives can also use quality circles effectively to deal with temporary or critical organizational issues. For instance, in introducing new technologies, retooling for new product lines, or helping to solve major quality problems, management can use circles to work out the bugs as well as to help workers accept the change. This approach implies a limited degree of movement toward participative management

When managers use this form, they should let the problem at hand define the circle's lifetime. For example, the circle should disband when the new technology has been debugged or when quality has been brought within acceptable bounds. Because the group's activities can make an appreciable difference in a chosen problem area and because management is concerned enough to be responsive to good ideas, workers are enthusiastic about this approach.

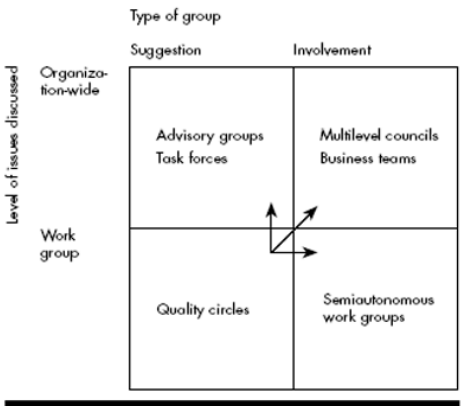
We found a few companies that have used QC programs for more than ten years and have gone through successive cycles of start-up and decline. A start-up typically occurred when the company was introducing a new product or a new technology and wanted employee input. At those points, managers seemed to almost spontaneously rediscover quality circles and start the activity again. Experience made the start-up and development of the circles much quicker and easier.

C. Traditional vehicle

Finally, managers can use quality circles as an interim or transitional device in moving toward a more participative management system and culture. What often happens is that a company embarks on a QC program, discovers its limitations, and then sets out on a course of action to further develop the participative culture of the organization.

As Exhibit II indicates, quality circles can evolve into other forms of employee participation and expand organizational commitment. Employees often want to work on issues that extend beyond their work group. In our experience, many of the issues that groups identify in their brainstorming sessions involve questions of intergroup relations and of organization wide policies and practices. Group members become frustrated when they are unable to initiate needed changes in these areas, particularly when they see a close relationship between the problems they identify and organizational performance. The QC activity may lead group members to want to transcend their status as a parallel suggestion system to become an integral part of the decision-making system.

Exhibit II Moving circles to other forms of participation



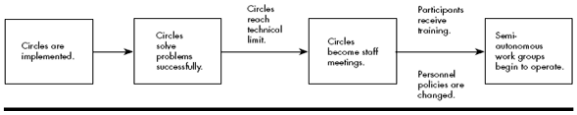
D. Exhibit II moving circles to other forms of participation

Management can move from quality circles to other forms of group activity in one or both of two directions. It can expand participative activities by establishing task forces composed of people from different work groups and at different organizational levels. The groups can be mandated to work on organization-wide problems. It can also transfer decision-making authority to the quality circles and task forces by providing them with the information, expertise, and resources needed to make and implement decisions.

5. Transition of quality circles

The transition of quality circles into self-managing teams is also a possibility. Teams are intact work groups in which the workers assume responsibility for performing many of the functions that supervisory or support groups previously carried out. They may, for instance, perform their own scheduling, assigning of workers to tasks, monitoring of work quality, and goal setting. Teams foster participation by giving employees responsibility for day-to-day decision making concerning their work. Quality circles can prepare employees for this type of structure by fostering development of skills and knowledge.

Exhibit III The transition from quality circles to semiautonomous work groups



A. Exhibit III the transition from quality circles to semiautonomous work groups

This transformation does not naturally flow from the implementation of quality circles. Rather, it is a conscious departure from the assumptions and philosophy of parallel suggestion groups. Its movement is toward stable participation groups that have a clearly defined arena of responsibility and can command the resources necessary to implement their solutions.

Managers who seriously want to adopt a participative philosophy and style of management may want to avoid using quality circles as a first step because the transition is so difficult to make. Even if the shift succeeds, this route to participative management is long and rather inefficient in comparison with the alternative of beginning with work teams. Those organizations that already use circles as suggestion devices, however, may want to try to make the transition rather than let them die.

6. Findings and suggestions

In our studies, we encountered only one instance where a company attempted to transform a QC program into a self-managing work group design. In this case, all intact work groups were formed into circles, which meant that they were, in a sense, not special groups. Furthermore, managers in this company had designed the circles program to give the groups a broad mandate and had committed a great deal of organizational resources to circle activities.

In the last five years QC activity has increased dramatically. A 1982 study by the New York Stock Exchange showed that 44% of all companies with more than 500 employees had quality circle programs. Nearly three out of four had started after 1980. Although no hard data are available, a good estimate is that over 90 of the *Fortune* “500” companies now have QC programs in their structures. Such well-regarded companies as IBM, TRW, Honeywell, Westinghouse, Digital Equipment, and Xerox use them a lot.

In any discussion of the prevalence and popularity of quality circles, the question inevitably arises, “Why are they so popular?” As with most management trends, there is no simple answer. Probably the single most important reason is the success of high-quality Japanese products at competitive prices in the United States. The invasion of the U.S. auto, steel, and

electronics markets led many people to examine what the Japanese were doing that could explain their success. The press, along with many academics, attributed that success to Japan's superior approach to management, which includes quality circles. Thus people came to see quality circles as a way for U.S. companies to regain competitiveness. Favorable press reports of some early uses of quality circles in the United States reinforced this perception.

7. Conclusion

Ron Basu and J. Nevan Wright, in their book *Quality Beyond Six Sigma* (another quality management technique) specified seven conditions for successful implementation of quality circles. These are summarized below:

- Quality circles must be staffed entirely by volunteers.
- Each participant should be representative of a different functional activity.
- The problem to be addressed by the QC should be chosen by the *circle*, not by management, and the choice honored even if it does not visibly lead to a management goal.
- Management must be supportive of the circle and fund it appropriately even when requests are trivial and the expenditure is difficult to envision as helping toward real solutions.
- Circle members must receive appropriate training in problem solving.
- The circle must choose its own leader from within its own members.
- Management should appoint a manager as the mentor of the team, charged with helping members of the circle achieve their objectives; but this person must not manage the QC.

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