QUALITY CIRCLE – CONCEPT AND THE INDIAN STORY

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ABSTRACT

Quality Circle is a modern quality management concept designed to bring together all level of workforce in an organisation for setting standards of excellence and achieving better results. Developed in post war Japan, quality circles was largely responsible for rebuilding and stabilizing the shattered economy of the country. This concept has since gained wide acceptance. Quality circles are being used all over the world because of the benefits that accrue to the firm. Employees meet regularly to identify, analyze and solve the problems that arise during the course of their work in the organization. Quality Circle includes different personalities of people in an improvement activity and helps in positively changing the behavior of the people. Quality circle encourages each individual to develop to the best of their ability. It creates a feeling of belongingness and camaraderie. It also satisfies self esteem and ego needs of employees with recognition and reward As a result relevance of quality circle is very much today for augmenting organizations capabilities to sustain and grow in a competitive market. This paper discusses the concept of Quality Circle and its application in the Indian context.

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Introduction:

Quality Circles is a term used in human resources management that refers to the technique of motivating workers by allowing them input into decisions concerning the production process, thereby increasing productivity and profits. A quality circle is a participatory management technique that enlists the help of employees in solving problems related to their own jobs. Quality circle is "a small group of employees doing similar or related work who meet regularly to identify , analyze, and solve product quality and production problems and to improve general operations. The circle is a relatively autonomous unit (ideally about ten workers), usually led by a supervisor or a senior worker and organized as a work unit."

Quality circle is one of the employee participation methods, it implies the development of skills, capabilities, confidence and creativity of the people through cumulative progress of education, training and work experience and participation. Participative methods in the workplace are one way to improve both work environment for employees and productivity and quality of the company. A Quality Circle is a Volunteer group composed of workers who meet to talk about workplace improvement, and make presentations to management with their ideas, especially relating to quality of output in order to improve the performance of the organization , motivate and enrich the work of employees. It also provides the creation of facilitative condition and environment of work, which creates and sustains their motivation and commitment towards work excellence. Quality circles are "the best means today for meeting the goal of designing quality into a product." Quality Circles are "A small group of between three and twelve people who do the same or similar work, voluntarily meeting together regularly for about an hour per week in paid time, usually under the leadership of their own supervisor, and trained to identify, analyse and solve of the problems in their work, presenting solutions to the management, and where possible, implementing the solutions themselves." Employees who participate in quality circles usually receive training in formal problem-solving methods such as, brainstorming, Pareto analysis, and cause and effect diagrams and then are encouraged to apply these methods to either specific or general company problems. Brainstorming is a group creativity technique to generate a large number of ideas for the solution to a problem. People, and their brains, are the most prestigious resources and greatest assets of an organization, because through people all

other resources are converted into utilities. Productivity can be improved not at the expense of people, but at the expense of wasted time, lost motion, unnecessary work, and product of poor quality. So the most valuable partner in cutting waste is people on the production floor who know their jobs better than anyone else. The involvements of people minds as well as hands are the most important segment of any production process. Full physical and mental capacities of employees are seldom used. If an employee sees cooperation can improve communication and quality, cut waste, and also eventually give more job satisfaction and enjoyment, he works more effectively and use more of his untapped potential. This fact has profited both the company and its employees. However, management of quality circles are applicable to a wide variety of business situations and problems and these are based on two ideas. First is that employees can often make better suggestions for improving work processes than management and second these employees are motivated by participating in such improvement activity.

Theory of Quality Circle [QC]

Quality circles were first established in Japan in 1962, and Kaoru Ishikawa has been credited with their creation. Quality Circle is a formal, institutionalized mechanism for productive and participative problem solving interaction among the employees of an organization. QCs consists of small group of employees from all levels of the existing hierarchical structure within an organization, voluntarily involved in the process of identifying, analyzing and formulating solutions to various technical, manual and automation related problems encountered in daily work life. Generally six to twelve volunteers from the same work area make up a circle. Quality Circle is not merely a suggestion system or a quality control group but extends beyond that because its activities are more comprehensive. Furthermore, it is not a taskforce because it can be made a permanent feature of the organization or a department. The following could be grouped as broad intentions of a Quality Circle:

1. To contribute towards the improvement and development of the organization or a department.
2. To overcome the barriers that may exist within the prevailing organizational structure so as to foster an open exchange of ideas.

3. To develop a positive attitude and feel a sense of involvement in the decision making processes of the services offered.

4. To respect humanity and to build a happy work place worthwhile to work.

5. To display human capabilities totally and in a long run to draw out the infinite possibilities.

6. To improve the quality of products and services.

7. To improve competence.

8. To reduce cost and redundant efforts in the long run.

9. With improved efficiency, lead time is reduced, resulting in an improvement in meeting customers due dates.

10. Customer delight is the primary goal of any organisation. Quality Circle not only helps in achieving it but also helps to be competitive for a long time.

The circle often is permitted to select its own projects. The idea behind the quality circle is that, armed with the proper training, the worker can discover previously unrecognized quality problems. The ability of circle participants to follow up their own suggestions is one feature that makes circles such a "people-building" device. Three major concept encompassing quality management are team work, continuous improvement and customer focus. The principle of teamwork focuses on collaboration of employees at all levels of organization through teams and use of problem solving methods.

QC Philosophy

The philosophy behind Quality Circle is that every individual is creative and is endowed with the potential to bring about improvement in the work situation. Improvement is a continuous and never ending process , everything at every stage can be improved. Problems can be best identified and solved by those who actually perform the job on day-in-day-out basis. People do not resist change, they resist being externally changed. They are capable of changing themselves.

Characteristics of Quality Circle:

Small group: The Quality Circle is normally composed of three to ten volunteers who come from the same work area and are under the same supervisor. Keeping the group small enables the members to participate actively in its activities. During meetings for instance, each member has a

chance to contribute ideas; if the group is small, the chances are high that members are able to foster better interpersonal relations and develop cohesiveness.

Continual control and improvement in the quality of work, products, and service : Quality Circle continue to look for opportunities for improvement from the time they receive their inputs to the time they deliver their product or service to their customers. They employ the concept of the Plan-Do-Check-Act (PDCA) continual improvement. Because the customer is never satisfied. Quality Circle never stop looking for better ways of doing the work. Once a problem is solved, it moves to solve other problems; thus, they are in a never-ending search for ways to improve and satisfy the customer.

Autonomous operation : Quality Circles are free to choose the problems to solve, they identify what data to collect in order to better understand why the problems exist, and the members analyze the causes of problems among themselves (though they sometimes consult other departments that connected with their work). They analyze these causes in detail until they are able to isolate the most critical cause of the problem. They are on their own when they think of possible solutions to eliminate this most critical cause, although they are free to consult supervisors, engineers, or facilitators for ideas. The decision on what is the best solution is theirs. Also, they decide how to implement their solution, confirm that the standard operating procedure is implemented, and show that the solution is effective. It is also their job to implement their solutions once they are approved by management, monitor results, and ensure that the problems do not recur. So it is in this context that the Quality Circle is practically left on its own in carrying out its activities.

Utilization of quality control concepts, tools and techniques: Quality Circle works on the basis of data throughout its problem-solving activities. Data shows that a problem exists and with the help of data they summarize and analyze the problem using simple statistical tools like graphs, scatter diagrams, cause and effect diagrams, Pareto diagrams, and histograms. They also use problem-solving techniques like matrix diagrams, the What, When, Where, Who, Why, How (5W1H) concept, the Sorting, Systematizing, Sweeping, Sanitizing, Self discipline (5S) concept,

the Man, Machine, Materials, Method, Environment (4M1E), and the Muda (wastefulness), Muri (excessiveness), Mura (dispersion)(3Mu) concept.

Self-Development: A Quality Circle contributes not only to the development of a sound working environment but also to the enhancement of individuals' abilities and potentials. In other words, the activities lead also to self-development of individuals. Through the activities, each member can develop various qualities, such as sound personal relations, analytical skills, presentation ability, and knowledge of various QC tools.

Basic Organizational Structure of Quality Circle:

In a typical organization, the structure of a Quality Circle may consist of the following elements:

1. **Steering committee** – General manager / works manager, representative from top management, representative . of human resource development and a representative of employees' union.
2. **Coordinator:** An administrative officer / personnel officer from middle level management.
3. **Facilitator: S**enior supervisory officer / foreman. A facilitator may manage up to 10 circles. A facilitator is usually from one of the three departments – quality control, production or training.
4. **Quality Circle Leader:** Quality Circle leaders may be from the lowest level of supervisors. A circle leader organises and conducts circle activities.
5. **Quality Circle members:** Line and / or staff workers (Quality circle members should attend all meetings as far as possible, offer suggestions and ideas, participate actively in group processes, and attend training seriously.

How to implement quality circle:

• Firstly, the management is informed about the quality control circle process that is being planned.
• A committee is formed, and key persons such as a coordinator and in-house coach are selected.
• The scope is defined, and areas of application identified.

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- First-line supervisors in the identified areas are given Quality Circle presentations. It is important to make these impressive so that valuable comments on the subject are available.

- This is followed up with extensive training for coordinators and middle management on the process and their roles.

- Employees are invited to become members of a quality circle, and trained suitably once they sign up. Thus, a quality circle is formed and begins work. These may give rise to other quality circles.

- Problems are discussed and solved in a systematic manner in the Quality Circles. It is very important that solutions are implemented as quickly as possible, to maintain the momentum.

Usually Quality Circle programs must operate in all sections of the company i.e., in the offices, service operations and manufacturing. While the size of the company is not important to a program's success, the factors like Voluntary participation , Management support , Employee empowerment , Training programs , Team work , Problem solving skills certainly are:

Benefits of Quality Circle:

 To the employees :

Transformation of oneself into a thinking human being , Improvement in customer orientation ,Important source of job satisfaction which is not present in routine day to day job. Provides a sense of participation to the employees. Develops training , coaching , analytical skills . Builds competence in employees to manage changes and prepares them better for supervisory position. Thus it helps in developing a sound human resources pool in the organisation. Builds ability to work with others and inculcates TEAM APPROACH to problem solving. Helps to improve work environment and methods.

To the organization :

Development of a complete coherent problem solving methodology. Increased production/ productivity , Enhanced motivation of the workforce , Improved quality of the product , Better employer - employee relationship. Strengthened competitiveness and Increased profitability, Reduction in the need for control and supervision , Improvement in the relationship between management and employees , reduction of absenteeism and turnover , Improvement in leadership competency.

Limitations or Impediments to Quality Circle:

There are several pitfalls is quality circles. Despite their merits, they have failed in many companies. The common hurdles in initiating quality circles in India are as under:

Negative Attitude: The employees and even managers may have negative attitude towards the quality circle. Naturally, they will resist its implementation. The wrong notions of the people about quality circles should be cleared.

Lack of Ability: The workers in India have a low level of education. They also lack leadership qualities. To overcome this hurdle, Workers' Education Program should be initiated.

Lack of Management Commitment: The top management may not be committed to the concept of quality circle. The employees may not be allowed to hold meetings of quality circles during the working hours. The management should allow the workers to hold quality circle meetings periodically during the working hours. Clear reward and recognition system should be in place. Specific budget should be allocated for training and education.

Non-implementation of Suggestions: The workers will feel disheartened if their suggestions are turned down without any reason. The suggestions of each quality circle should be given due weight age.

The Indian Story :

In India BHEL started its first quality circle at its Hyderabad unit in 1980-81. Ramchandrapuram, Hyderabad unit of BHEL was the initiator of incorporating quality circle to the Indian corporate sector and also taken lead of this movement in India. The chief architect of this movement was started in year 1980 by Mr. S. R. Udpa, the General Manager. With 5 quality circles in that Hyderabad unit of BHEL, the idea caught on in the entire corporation and in two years they were more than 200 circles with about 1800 members. Starting from the engineering workshops, Quality Circles spread in other service departments of BHEL such as personnel, purchase, hospital, administration, training centres, workers canteens, etc. BHEL is very rich in its history of and perhaps is the best example of an Indian organization in harnessing and utilizing human potential as actually implementing the concept of worker's participation in management in its manufacturing plants throughout the country. This concept was first sold to the company's top level executives, but later it was felt that this movement will not gain momentum without the support of middle level management. Middle level management was

known for using devious means to scuttle quality circles because it did not like these circles coming up with problems about which it had earlier told the top management that they simply did not exist, or with solutions, which it had always impossible. So, the middle managers were also exposed to the new philosophy and were made to realize that they could 'make or mar' the movement. Meetings were also organized to convince workers of the sincerity of purpose and procedures for functioning were outlined and remedies were suggested for various pitfalls. While initially in Japan, the focus of Quality Circles was on improving quality, in BHEL, the managers realized that such small group activities can also results in Improving human relations , Promoting participative culture , Improving productivity, Promoting job interest, Inspiring more effective team work, Improving communication, Promoting leadership development and Catalyzing attitudinal change

The concept has now become very popular in all the units of BHEL and by the year 1998 there were over 1600 quality circles. By 2009, BHEL had more than 1700 quality circles in all BHEL plants involving about 17000 workers who have tackled over 600 problems. Over two decades, the number of Quality Circles in BHEL has grown to members account for 27.4 per cent of the company's workforce. In 2005, BHEL notched up its highest-over turnover of Rs.105.20 billions, crossing Rs. 100 million mark for the first time, compared to Rs.88.62 billion of the previous years. The turnover growth of over 21% has been achieved on top of 16% achieved in 2003-2004. Further, this is highest growth rate achieved in last two decades. According to the reference of quality circle programs of BHEL "Sustained performance by the company became possible as a result of strategic management with a blend of appropriate measures including improvements in operational efficiencies, benchmarking against international standards, prudent financial management, upgrading manufacturing facilities, and dynamic HRM policies". According to Public Relation Officer of Hardwar BHEL plant, Quality Circles have contributed a saving of Rs.20 millions to the organization. BHEL Trichurapalli an ISO 9001 company also constituted 60 odd inter-functional task-force to solve the problems, each with time bound plans in the early nineties. Besides this, there were award for zero-defect performance and housekeeping. These tasks forces saved 40% time for executing orders and better control resulted in 25% reduction in inventories, improved manufacturing practices as reduction in complaints by 50% and as much as 20% in energy cost was achieved by effective management

of finance. But in spite of all these, in view of the employees of this organization the Quality Circles have developed the sense of achievement, a sense of responsibility towards improving the quality of Management Insight by establishing the consistent goals with the company larger objectives. According to employees' opinions, this provides opportunity for self development in employees, brings about a participative culture in work areas and feeling of full involvement towards enhancing the total quality and productivity in company. Today, employees of this company feel that productivity is only the way of their life. Delivering the keynote address on the convention occasion, the Executive Director of BHEL, Trichy Complex, Mr. R.N. Misra, said that the Rs 800 billion order book of BHEL, to which a new order gets added every week, reflects the high confidence that customers repose in the company. In the open economy, BHEL could ally misgivings by prevailing over multi-national companies in wresting projects and subsequently turning out to be the lone bidder in tenders. BHEL is now into the new phenomenon of negotiating rates. The company is living up to the nation's faith. The performance of the company has shown upward trend since the inception of quality circles and saving-cost ratio was between 5:1 to 10:1, which shows very good performance of Quality Circles in the company. Quality Circles have decreased the number of absentees in the last five years and employee turnover rate is very good. Hyderabad BHEL plant was adjudged the 'Best Organization in promoting Quality Circles', for the second consecutive year by QCFI Chapter Convention. In addition among Public and Private sector companies, the highest number (eight) of Prime Minister's Shram Awards has been won by 14 BHEL employees. This includes the solitary Shram Bhushan awarded in year 2005, which was also the highest award in the series declared that year.

Presently, at national level quality circles in India have gradually spread to chemical, pharmaceutical and other processing plants including even the more traditional jute and textile industries.Other companies also immediately followed suit. Some of these were Jyoti , Shriram Refrigeration, Kirloskars, Sundaram Fasteners , Hero Honda, Cromption Greaves, TELCO, TISCO, BEL, Jai Engineering , Madura Coats, Bharat Fritz Werner, Essar Industries and Mangalore Chemicals and Fertilizers , BASF, Hindustan Antibiotics , Durgapur Steel plant, JK Jute Mills, National Textile Corporation, Shriram Fibers, etc .. The results of Quality Circle implementation in Indian industries are encouraging. The reason for this, it has been said , can

be seen in the firm commitment and continual supportive guidance by the top and senior managers to the Quality Circles Programme. Quality Circles in a case where the leadership is bringing about changes is taken by workers themselves leaving the management with a new role of a advisor, a catalyst, a facilitator. The labour union also have changed their traditional concept of leadership style. The management has got over its phobia of losing the management prerogative of decision-making, and likewise unions have got rid of the fear that management are trying to undercut their power through this new gimmick. These fear are far-fetched, because Quality Circle addresses themselves to technical problems. But it is also true that Quality Circle are not just a modified version of the old 'Suggestion Box' but way far from it. For the work done by such circles, some organizations believe in giving tangible recognition such as monetary incentives. Although 'recognition' is essential , monetary incentives pose tricky problems such as: how much incentive and how to distribute it amongst workers? Moreover, monetary incentives may be unnecessary. As a worker from BHEL has pointed out, in Quality Circles the work itself is a reward besides having a safe and improved work environment.

The concept of Quality Circles is also, reportedly, being experimented in various non-industrial sectors such as hospitals, banks, educational institutions, etc. There are several other companies successfully operating Quality Circles in India both in the public and private sectors. State bank of Hyderabad , IIM. Calcutta, Air India , Indian Airlines , Apollo Hospital in Chennai, State Road Transport Corporations of Andhra Pradesh and Kerala , South Eastern Railways, Bank Of Baroda, State Bank OF India, etc. are some of the service sector organizations joining the fraternity of Quality Circle implementing organizations in India. Quality circles in India have also been reported from certain families and rural projects. In India professional bodies such as the National Institution for Quality Assurance and the Indian Association for Quality and Reliability have been helpful.

The Quality Circle Forum of India has been active in the propagation of knowledge, gained from experience, about the methodology for starting and establishing Quality Circles in the Indian environment. Quality Circles Forum Of India (QCFI) has various members from manufacturing and non- manufacturing organizations in India. QCFI brings out its quarterly journal: Quality circle India. The forum has also published its booklets entitled: Quality Circles at a glance in 10

different languages, the quality circle manual, training for quality circles, etc. all of which explain Indian experience on quality circle movement. A number of video cassettes on QCs have also been released by QCFI. All Indian organizations who have implemented Quality circles, are members of QCFI. Other efforts of QCFI include training programs, conferences, workshop, in-plant presentations and appreciation programs. With headquarters in Hyderabad, QCFI is having 20 chapters in different Indian states and leading personalities are heading these chapters. QCFI membership has gone over the years to more than 2000 persons and cooperate bodies. QCFI has now been taken on the co-ordination committee of the international convection on Quality Circles which hold its convention annually at different venues. Earlier, it was held in Japan, South Korea, Taiwan in rotation. Now Thailand, Phillipines, Singapore, Hong Kong, Malaysia, and Sri Lanka are also included among the sponsors of this international convection.

One study was carried out to determine whether Quality Circles in public sector are functioning more effectively than the private sector in terms of length of participation, training, participants' feelings about Quality Circles, and organisational support to Quality Circles. From the results of the study, it was concluded that, participants from both sectors expressed their improvement in work life with job satisfaction after joining the Quality Circle programme. But however, a significant difference was observed between the sectors in the organisational support to Quality Circle activities. Higher positive results were found in public sector organisations. The aim of public sector organisations in implementing Quality Circles process is to increase not only their overall performance, but to achieve higher quality in delivering of service. The private sector organisations on the contrary, focus on profit and productivity maximisation and thereby initiating the Quality Circle processes to achieve higher financial benefits through efficient time and material management. The data reflected that the organisational support to Quality Circles in private sector organisations was less when compared with public sector organisations. It concluded that public sectors provided full-fledged support to Quality Circles compared to private sectors in terms of longevity and employees' perception.

Conclusion:

The impact of Quality circle towards employees and organization has become very important for improving a firm's process capabilities and sustain competitive advantages. It focuses on encouraging a continuous flow of incremental improvements from the bottom of the organizations. Autonomy and complexity are the other two attitudes enhanced through company's implementation. Job satisfaction and company commitment are the work attitudes, being the dimensions of employee attitudes. Quality circle can be linked more with productivity which cannot be measured only by money. There are various factors involved in developing the employees attitude towards quality circle. The organization plays a facilitator role in developing Quality circle. The transparency and integrity of the organization is very much important for the smooth functioning of quality circles. The culture has great impact on the quality circles based on employee involvement, employee empowerment, perceived organizational support and employee engagement. It is evident that Quality circles are the important tools for achieving total quality and organizational culture. Quality Circles must follow some ethics like Criticise ideas, not persons , the only stupid question is the one that is not asked , Everyone in the team is responsible for the team's progress , Be open to other's ideas.

Organizations cannot grow without the contribution of manpower which is an important resource . BHEL has been a pioneer in this field.. Efforts are made continuously by BHEL to take forward the quality movement and BHEL Haridwar today has 395 quality circles. CII also has been appreciated for taking forward the Quality movement. In India Quality Circle teams has played a very important role in involving a wide cross section of employees in any organization for improving Quality. They are a critical enabler for sustained growth and also to face the international competition. Quality has been seen in a holistic perspective, which implies development of skills, productivity, and quality of four aspects man, machine, method and product through cumulative process of training, work experience, brain storming sessions and active participation. Quality Circle has emerged as a mechanism to develop and utilize the tremendous potential of people for improvement in product quality and productivity.

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