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A Study On Motivational Factor For Sustaining Quality Control Circles -An Empirical Study Conducted In Bangalore, India

Ganesh R.

Ph.D Scholar, SCSVMV University, Kancheepuram, India

Dr. S. Franklin John

Principal, Nehru College Of Management, Coimbatore, India

Balasaraswathi K.

PGDM (DLP) Student, We School Welingkar Education, Bangalore, India

Abstract:

Continuous Improvement is the key strategy for Business Growth. Many Indian organizations are practicing the continuous improvement for the business sustenance and the sustenance of continuous improvement becomes a challenging job. The best way to integrate a business improvement strategy for sustaining continuous improvement is to involve every employee with shared accountability and responsibility to bring the ownership for the respective process. Organizations are actively trying to involve grass root employees in continuous improvement. To involve grass root employees in productivity and process efficiency improvement activities, a team-based environment must be developed in which they can participate actively in improving their process, product, or service performance. One such employee participation program is Quality Control Circles (QCCs). The study is to identify the gap and develop a strategic approach for sustaining continuous improvement for business growth.

Key words: *Continuous Improvement, Total Employee Involvement, Quality Control Circle, Strategic approach*

1.Introduction

QC Circle activities are carried out as part of Total Quality Management (TQM), with the objective to develop the grass root level employee's capabilities to the fullest and make the workshop a pleasant place to work in order that grass root level employees contribute to the company goal and ensuring customer satisfaction.

The QC Circle provides an opportunity for grass root level employees to develop their creative thinking as they look for better ways to do their work, which is imperative as customers become more demanding and their needs become more varied and complex.

Union of Japanese Scientists and Engineers (JUSE) defines a Quality control circle as "a small group of frontline operators who continually control and improve the quality of their work, products and services; they operate autonomously and utilize quality control concepts, tools and techniques".

QCCs are small groups engaged in quality improvement activities in the same workplace. As a part of a company-wide quality improvement, QCC aims to foster self- and mutual education by helping all members participate in the continuous improvement of their products and services.

QCC activities are usually directed towards improvements in the workplace. They focus on such areas as:

- Productivity
- Quality
- Cost
- Delivery
- Safety
- Morale

2.Literature Review

QCC has its origin in the United States (US); the original model aims to reduce the percentage of defective products by using a set of simple statistical analysis tools. At the time of its introduction to Japan in the 1950s, the Union of Japanese Scientists and Engineers (JUSE) had revised the imported quality control methods and tailored them into a unique model. While the use of statistical tools is a common feature between US and Japanese models, one of the major differences is the level of worker participants. In Japan, individual workers have the responsibility and are allowed to take the initiative in the solution of their own

problems, with the assistance of management and technical personnel. This degree of worker responsibility and cooperation appears to be the unique contribution of Japanese management and workers to the process (JETRO, 1981).

As for their impact on the overall quality of management, while QCC has significant effects, it is generally centred on solving “many trivial problems” (Lillrank and Kano, 1989). Meanwhile, based on their case study on QCC at the Nippon Steel Corporation Kimitsu Works (QCC was called “JK (jishu Kanri, self-management) activities” in Japanese), Nonaka and Yonekura (1984) analysed some key features that promoted the organizational learning in the company and suggested that JK activities had innovative effects on the shop floor organization, which far exceeded mere improvement of the working environments.

To initiate the growth of QCC, Quality Circle Forum of India (QCFI) established in 1982, as a non-profit, nonpolitical, national professional body with the purpose of creating an environment for active involvement and participation of employees in every area of human endeavour. QCFI is recognized as the institution representing the Quality Circle Movement in India and has represented the country in several international forums. The organization has successfully implemented Quality concepts under the TQM umbrella across several industry verticals that have experienced a phenomenal enhancement of their work processes and productivity after implementation of Quality concept tools.

3. Quality Control Circle Steps

- Profile of the team
- Formation of problem directory through brainstorming
- Problem selection & basis of selection
 - Milestone or pert chart
- Brainstorming for causes of the problem
- Draw cause & effect diagram and identify critical causes
- Selection of critical causes & collection of data through check sheet
- Draw Pareto diagram and identify the vital few from the trivial many
- Brainstorm for solutions
- Selection of solutions and implementation. (collection of data through check sheet)
- Monitor results change documents/process/procedures for retaining the improvements
- Results achieved
 - Tangible benefits
 - Intangible benefits
 - Future plans & management presentation
 - Identification of next project by quality circle
 - Management presentation

4. Need Of Quality Control Circles In Industry

Customers are very difficult to please nowadays. The demand for better products and better service is never ending. Organization must mobilize the whole organization towards providing products and services that satisfy the customers. The quality must be ingrained in the mind and heart of every member of the organization; must be built into each process, each raw material, each machine, and each technology; and must be palpable even in the work environment. This means that processes have to be improved; standards have to be defined. Making all these changes happen requires participation of employees of organization (executives, middle management, supervisors, and operators), whom are the value-creators for customers. Quality control circles will help the organization for integrating the employees towards a common goal and work together for the customer and organizational benefits.

5. Motivation Of The Study

Sustenance of continuous improvement process includes the management of people and the environment. Sustainability initiatives are a business improvement process and should be seen in the same way as any other performance improvement programme. Once the initiatives are achieved, new opportunities for improvement should be taken on from the prioritized list to ensure a continuous Improvement cycle flows through the business process. Most of the manufacturing organizations are in quest of ideas for sustaining the continuous improvement through Quality Control Circles at the grass root employees.

6. Objectives Of The Study

- To find out a motivation factor for implementing Quality control circles from the regular quality circles implementing team members
- To study the different level of motivation factors and to find a suitable method for sustenance through statistical techniques

7. Research Methodology

Primary data was collected through structured questionnaire and interview method from the regular quality circles implementing team members in Bangalore. Secondary data was collected from articles, journals, books and from various training programs previously conducted. The sample size is 115 selected randomly at the Chapter convention of Quality circle (CCQC) – 2013 organized by Quality Circle Forum of India (QCFI) Bangalore chapter.

8.Data Analysis And Interpretation

Percentage Analysis of Demographic Factors

Education	Respondents	Percentage	Experience	Respondent	Percentage
X Std	21	18%	Lessthan 1 Year	23	20%
ITI	82	71%	1- 2 years	19	16%
Diploma	12	11%	2-3 years	32	28%
Total	115	100%	3-5 years	17	15%
			Morethan 5 years	24	21%
			Total	115	100%

Industries	Respondent	Percentage	Participation	Respondent	Percentage
Manufacturing	8	24%	1 QCC	56	49%
Processing	6	18%	2 QCC	51	44%
Assembly	9	26%	3 QCC	8	7%
Machineshop	11	32%	Total	115	100%
Total	34	100%			

Table 1: Percentage Analysis Of Demographic Factors

Factor for QCC Implementation	Respondents	Percentage
Self Interest / Learning	21	18%
Rewards and Recognition	68	59%
Appraisal	26	23%
Total	115	100%

Table 2: Factor For QCC Implementation And The Respondent

9.Findings

It has been found that 18 percentage of the respondents come under the education group of 10th standard, 71 percentage respondents are ITI and 11 percentage respondents come under Diploma. From table 1, it has been found that 24 percentage of respondents are from manufacturing industry, 18 percentage of the employees are from process industry, 26 percentage of the employees are from assembly industry and 32 percentage are from machine shop. It has been found that 49 percentage of respondents are participated in one quality circle, 44 percentage of respondents are participated in two quality circles and 7 percentage of respondents are participated in three quality circles. The table – 2 highlights that 18 percentage of respondents are permanent employees and 16 percentage are temporary employees. The table shows that 39 percentage of respondents are working in quality circle for self-interest and learning, 59 percentage of respondents are working in quality circle for rewards and recognition and 26 percentage of respondents are working in quality circle for Appraisal.

10.Inferences

Factor for QCC Implementation	X Standard	ITI	Diploma	Total
Self Interest / Learning	1	8	12	21
Rewards and Recognition	47	13	8	68
Appraisal	0	11	15	26
Total	48	32	35	115

Table 3: Factor For QCC Implementation And The Respondent's Education

It has been found in Table -3 (Factor for QCC implementation and the respondent's education) that 5 percentage of the respondents come under the education group of 10th standard, 38 percentage respondents are ITI and 57 percentage respondents come under Diploma are involving in quality circle for "Self-interest / Learning". 69 percentages of the respondents come under the education group of 10th standard, 19 percentage respondents are ITI and 12 percentage respondents come under Diploma are involving in quality circle for "Rewards and recognition". No respondent come under the education group of 10th standard, 42 percentage respondents are ITI and 58 percentage respondents come under Diploma are involving in quality circle for "Appraisal".

Factor for QCC Implementation	<1 Year	1-2 Year	2-3 Year	3-5 Year	>5 Year	Total
Self Interest / Learning	11	8	2	0	0	21
Rewards and Recognition	3	7	18	15	25	68
Appraisal	2	4	13	4	3	26
Total	16	19	33	19	28	115

Table 4: Factor For QCC Implementation And The Respondent's Work Experience

It has been found in Table - 4 (Factor for QCC implementation and the respondent's work experience) that 52 percentage of respondents participated in quality circle are less than 1 year of work experience, 38 percentage of respondents participated in quality circles are between 1 to 2 years of work experience, 10 percentage of respondents participated in quality circles are between 2 to 3 years of work experience and No respondents more than 3 years are participated in quality circles are participating for "Self-interest / Learning", 4 percentage of respondents participated in quality circle are less than 1 year of work experience, 10 percentage of respondents participated in quality circles are between 1 to 2 years of work experience, 26 percentage of respondents participated in quality circles are between 2 to 3 years of work experience, 22 percentage of respondents participated in quality circles are between 3 to 5 years of work experience, 37 percentage of respondents participated in quality circles are more than 5 years of work experience are participating for "Rewards and recognition". 8 percentage of respondents participated in quality circle are less than 1 year of work experience, 15 percentage of respondents participated in quality circles are between 1 to 2 years of work experience, 50 percentage of respondents participated in quality circles are between 2 to 3 years of work experience, 15 percentage of respondents participated in quality circles are between 3 to 5 years of work experience, 12 percentage of respondents participated in quality circles are more than 5 years of work experience are participating for "Appraisal".

Factor for QCC Implementation	1 QCC	2 QCCs	3 QCCs	Total
Self Interest / Learning	12	7	2	21
Rewards and Recognition	8	10	50	68
Appraisal	2	11	13	26
Total	22	28	65	115

Table 5: Factor For QCC Implementation And The Respondent's No. Of QCC Participation

It has been found in Table - 5 (Factor for QCC implementation and the respondent's No. of QCC participation) that 57 percentage of respondents are participated in one quality circle, 33 percentage of respondents are participated in two quality circles and 10 percentage of respondents are participated in three quality circles for "Self-interest / Learning". 12 percentage of respondents are participated in one quality circle, 15 percentage of respondents are participated in two quality circles and 74 percentage of respondents are participated in three quality circles for "Rewards and recognition". 8 percentage of respondents are participated in one quality circle, 42 percentage of respondents are participated in two quality circles and 50 percentage of respondents are participated in three quality circles for "Appraisal".

11. Research Observation

It has been found from the inference that the employees participate in first quality control circle is for Self-interest / learning, as the knowledge level of the employees on quality control circle increases they are participation for rewards and recognition and at the matured level the employees participate in quality control circle for appraisal.

12. Suggestions And Recommendations

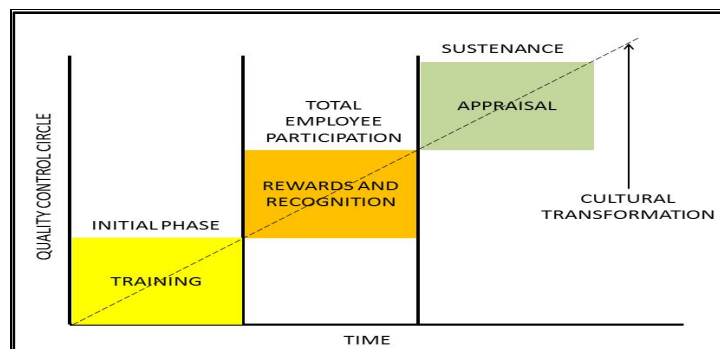


Figure 1: Factor For Implementing And Sustaining Quality Control Circle

- Management support is necessary for the employees who works in Quality circle team as a factor of motivation
- Initial phase of quality control circle needs motivation through training as the employees participate for Self-interest / learning
- Training on quality control circle, quality tools and techniques with time management techniques should be taught to employees so that they complete their task within the scheduled time
- Rewards and recognitions are necessary for the employees who participated in Quality control circles and for their excellent performances and to create a culture of Total Employee Participation
- Quality control circle participation should be taken in the employees performance appraisal for sustenance

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13. Conclusion

Problems are unavoidable one in the workplace. The level of problem and its amount of consequences vary within and between organizations based on the nature and type of work practices. Organization must begin to manage people at work differently, treating them with respect and valuing their contribution in solving the problems. Recognition, participation and continuous training of employees are required to retain the skilled employees. It is the responsibility of the organization to see that its employees to participate in quality control circles to overcome the work related problems and maintains the sound health of the organization.

14. References

1. The Juran Trilogy Model - The Universal Sequences of Quality Planning, Quality Control, and Quality Improvement (Source: www. Juran.com). Page No. – 1 & 2
2. Quality Control Circles in Burkina Faso: Lessons Learned and Implications for Other Developing Countries by Sayoko Uesu. Page No. – 2&3
3. <http://www.organicexpo.co.nz/sustainability/continual-business-improvement-is-your-sustainability-strategy-2/>
4. http://tool.ncsustainability.com.au/assets/sustainability_strategy.pdf
5. Hand book for TQM and QCC Volume – 2 “How to start QCC” - Development Bank of Japan (DBJ) and Japan Economic Research Institute (JERI), under contract with the Japan Program of the Inter- American Development Bank. Page No.- 5 & 6