

QUALITY CIRCLES- A Team-based approach for Scaled down Conflicts

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ABSTRACT

This study had been undertaken over a total of 55 employees working at Anant Spinning Mills, a plant of Vardhman Fabrics located at Mandideep, Bhopal. In this study an attempt has been made to study the role of quality circle in reducing the conflicts. This is based on the responses of the participants of the survey and the method used is based on hypothesis testing which is deductive in nature. The quality circles aim at bringing together all three levels of management on the conversation table with the objective of discussing about the problems faced by an organization and come out with a solution. This study has taken conflict resolution as one of the variable for assessment as reduction in conflicts can lead to organizational harmony which is an essential requirement to enable the organizations to work smoothly. The results achieved in this survey were in the favor of alternate hypothesis that quality circles are really helpful in scaling down conflicts.

Keywords: *Conflict, Conflict Resolution, Quality Circle, Organizational Harmony.*

1. Introduction

To start this paper a brief conceptual understanding of the concept of quality circles would be quite handy. Quality circles can be called as a concept which is both concrete and abstract in nature. Concrete, because this is a training program for the employees and the meetings that happen can be witnessed and participated and abstract as the outcome of such kind of participatory programs can be felt by whole organization in the form of conducive atmosphere, positive working environment and increased morale of employees. Quality circles briefly can be defined as the journey to make the organization environment democratic from hierarchical wherein every employee has an opportunity to express their opinions. The outcome of quality circles can be called symbiotic in nature which is mutually beneficial to both the parties i.e. the employer and the employees. It can also be called as the modus operandi of any organization to manage its workers in an efficient way without disturbing the status quo of the organization.

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1.1 Nature of the Problem

Before discussing about the problem found for this study, it is necessary to know that quality circles has equal amount of production as well as advantages related with behavioral outcomes. Production, profit increasing, knowledge creation and innovation related concepts have been comprehensively discussed though very less attention is paid on aspects related with behavioral outcomes. Though the concepts of worker satisfaction, work life balance, employee morale and employee commitment have found some mention in studies, other concepts of organizational disturbance, ensuing conflicts, employee grievances have found very less mention.

1.2 Previous Work

Previous studies had been undertaken to study the behavioral aspects of quality circles implementation which discuss about worker satisfaction, employee morale, employee commitment, interpersonal interaction, group processes (cohesion, participation and communication), affective reactions (satisfaction, commitment and involvement), grievance rate, turnover and absenteeism, analytical problem solving process of employees (clarification of task and role requirements, ideas/ suggestions for change, skill and knowledge acquisition), motivation and sense of competence.

1.3 Purpose:

The purpose of this study was to assess and analyze the role of quality circles participation in conflict reduction.

1.4 Contribution of the Paper:

The study discusses about reduced conflicts in the organization which can in turn improve the quality of human resources as they can completely focus on their goals and steer the organization towards the path of success. This paper provokes the thought that conflict reduction can help in promoting harmonious relations among the employees which can further have so many benefits as a conducive working environment, allegiance to a leadership, concerted efforts, in short an open atmosphere where employers respect their employees too.

2. Literature Review

Katz, Kochan & Weber, in their study discussed about industrial relations system and quality of work life. They have discussed about how industrial relations system affect organizational effectiveness. Industrial relations system has an essential ingredient of conflict management system wherein grievance redress system plays an important role. Large number of grievances present in the organization point to the deep-seated problem in the organization which are devoted to problem solving and conflict resolution. The study has considered quality circles as an important ingredient which can improve quality of work life ([1] Katz, Kochan & Weber, 1985).

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Gowen III, Mcfadden, Hoobler & Tallon have examined healthcare quality program practices, employee commitment after participating fully in quality management practices and control initiatives. They have underlined in their study that quality management practices have the potential to become very successful in healthcare management practices. Such quality management practices as competitive benchmarking, customer satisfaction-evaluation, employee quality teams and supply chain management. These practices have been borrowed from CQI, TQM, Six Sigma, and the MBNQA approaches. There is also a mention of quality circles practice being implemented by one of the hospitals in its nursing department. They are also helpful in emergence of quality improvement ideas and their implementation ([2] Gowen III, Mcfadden, Hoobler & Tallon, 2005)

Wood, Hull & Azumi have discussed about the potential effects of quality circles on productivity and employee morale as a result of which QCs can function effectively. These potential effects are: Productivity which is here characterized by group/ departmental performance rates, individual performance rates and standardized unit costs. Client evaluation and rejection rates defining product quality, cost savings summed up by materials/ labor costs, machine maintenance costs and wastage costs. Worker morale characterized by satisfaction with supervision, satisfaction with coworkers, satisfaction with work content, satisfaction with organization and satisfaction with Quality circles ([3] Wood, Hull & Azumi 1983)

S. Lomash in his book “Growth Through Participation Quality Circle Way” has covered the study on the behavioral aspects required for nourishing for quality circles. He discussed it along with other popular theories of motivation. In his conditions of fostering QCs, he discussed that workmen should believe that factors beyond their control like policies etc are favorable to them and management is supportive to quality circles activities (Lomash, 2006). There is also a need for people to change their attitudes for being a participant of quality circles; they cannot carry the evil of casteism with themselves in a quality circles activity. Participation is for all irrespective of caste, creed, culture, color, race and gender. Talent should be praised not the background of individual. He also discussed the hierarchical structure of quality circles and also various techniques used in quality circles to solve the problems ([4] S. Lomash (2006)

Steel and Lloyd in their longitudinal research conducted at U.S. Airforce Base investigated the outcomes of participation in a quality circles program. They divided the outcomes of the program into immediate program specific outcomes, which evolve into secondary cognitive and affective outcomes and ultimately culminate to behavioral outcomes ([5] Steel & Lloyd, 1988). The scholars have made an attempt to relate their study on the outcomes of quality circles participation with a model of attitude which is the ABC model of attitude i.e. Cognitive, Affective and Behavioral components of an attitude. In this case the attitudinal change which the employees undergo after participation in quality circles program is emphasized ([5] Steel and Lloyd, 1988).

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Pondy in his study has comprehensively talked about various types of conflicts faced within an organization, categorizing each one of them. This study has identified three broad types of conflicts prevalent in a formal organization which are:

1. Bargaining Conflict among the parties to an interest group relationship
2. Bureaucratic Conflict between the parties to a superior-subordinate relationship
3. Systems Conflict among parties to a lateral or working relationship

They have provided a working definition of conflict and highlighted the situations leading to conflicts in organization. The situations are classified into antecedent conditions as unhappiness with policies and scarcity of resources, affective states as stress, tension, hostility and anxiety and cognitive states of individual as their awareness of conflicting situations and lastly conflicting behavior which can start from passive resistance and end till overt aggression ([6]Pondy, 1967). Conflict though dynamic in nature and is in a way healthy for an organization as the parties are quite often involved in competition for scarce resources, driven for autonomy or goal divergence of the subunits. Though the author has not discussed about role conflict in an organization when the focal person receives incompatible role demands or expectations from the person in his role set ([6]Pondy, 1967). Conflict can also be felt when two parties misunderstand about each other's real position which is known as Perceived conflict. Other two types of conflicts are the Felt conflict in which the third party to conflict is not in any way affected with the disagreement prevailing between the two parties and lastly there is Manifest conflict which includes open aggression, hidden attempts to block or sabotage opponent's plan. Individual is motivated more towards violent behavior but expresses it in less violent form.

In the bureaucratic conflict there is a zone of indifference between superior and subordinate. Subordinate perceives conflict when his territory of activity is encroached by his superior and superior experiences conflict when the subordinate stops him from doing that. In systems conflict, there is a functional conflict at the core which results in the conflicts between employees at same hierarchical level. Conflict between a production manager and a marketing manager come under this category. The resources of production manager are raw materials, workers and machines and that if marketing manager are salesmen, promotional media and saleable goods ([6]Pondy, 1967).

3. Research Gaps

Previous studies have not talked about the role of quality circles in the resolution of conflicts and how can they help in ensuring organizational harmony. The various research gaps are as follows:

- Research has been done on quality circles play a major role in improving quality of work life but did not count conflict reduction as a factor in it.
- Impact of quality circle participation of productivity, employee morale and performance has been measured whereas conflict reduction has not got any major attention.

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- Discussions have been done on how quality circles participation can contribute towards growth of the organization but how do they make the environment conducive has not been vividly discussed.
- A very lengthy discussion of conflicts, its types- broad and specific, its resultant disequilibrium and its advantages has been done but how to scale down the conflicts to suit the organizational environment.

4. Hypothesis

The study is based on following hypothesis:

H0: Quality Circles cannot scale down conflicts in an organization.

H1: Quality Circles can scale down conflicts in an organization.

5. Data Collection

Data collection was done from 55 employees of Anant Spinning Mills located at Mandideep, Bhopal which is a textile and steel manufacturing firm. Quality Circles are functioning in this organization since 1997. The question asked from the participants was "**QC discussion reduced the number of day-to-day conflicts in my team.**" Five-point Likert Scale was used to rate the response categories from Strongly Disagree to Strongly Agree which ranged from 1 to 5 i.e. 1 for Strongly Disagree, 2 for Disagree, 3 for Undecided, 4 for Agree and 5 for Strongly Agree.

6. Analysis of Data

Frequencies

TABLE 1

| Statistics | | |
|------------------------|---------|--------|
| conflict reduction | | |
| N | Valid | 55 |
| | Missing | 0 |
| Mean | | 3.6364 |
| Median | | 4.0000 |
| Mode | | 4.00 |
| Skewness | | -.812 |
| Std. Error of Skewness | | .322 |
| Kurtosis | | .199 |
| Std. Error of Kurtosis | | .634 |
| Sum | | 200.00 |

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The mean value is 3.63 which is closer to the response category of 4 which is ‘Agree.’ The Median and Mode values are 4 which show the frequency of the response category of ‘4’ is more than any other response category.

TABLE2

| Conflict Reduction | | | | | |
|--------------------|-------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | strongly disagree | 2 | 3.6 | 3.6 | 3.6 |
| | Disagree | 7 | 12.7 | 12.7 | 16.4 |
| | Undecided | 9 | 16.4 | 16.4 | 32.7 |
| | Agree | 28 | 50.9 | 50.9 | 83.6 |
| | strongly agree | 9 | 16.4 | 16.4 | 100.0 |
| | Total | 55 | 100.0 | 100.0 | |

The frequency analysis was done to assess the number of responses each category got. In the above TABLE, this can be seen that response category of **agree** symbolized by 4 in the questionnaire for 28 responses and second rank is enjoyed by response category of **strongly agree** symbolized by 5. The latter has got 9 responses.

TABLE3

| Descriptives | | | | | | | | |
|-------------------|----|--------|----------------|------------|----------------------------------|-------------|---------|-----------|
| Conflictreduction | | | | | | | | |
| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Max imu m |
| | | | | | Lower Bound | Upper Bound | | |
| top | 4 | 2.7500 | .95743 | .47871 | 1.2265 | 4.2735 | 2.00 | 4.00 |
| middle | 20 | 4.3500 | .48936 | .10942 | 4.1210 | 4.5790 | 4.00 | 5.00 |
| lower | 31 | 3.2903 | 1.03902 | .18661 | 2.9092 | 3.6714 | 1.00 | 5.00 |
| Total | 55 | 3.6364 | 1.02494 | .13820 | 3.3593 | 3.9134 | 1.00 | 5.00 |

In the descriptive analysis, the mean values for all top, middle and lower level management are 2.75, 4.35 and 3.29 respectively which indicates that there is a significant difference among the three groups of management as middle level management differs significantly from top level management whereas lower level management does not differ significantly from top and middle level management. The lower level stands somewhere in the midst of the top and middle level management.

T-Test

TABLE4

| One-Sample Statistics | | | | |
|------------------------------|----|--------|----------------|-----------------|
| | N | Mean | Std. Deviation | Std. Error Mean |
| conflictreduction | 55 | 3.6364 | 1.02494 | .13820 |

TABLE 4.1

| | One-Sample Test | | | | | |
|-------------------|------------------------|----|-----------------|-----------------|---|-------|
| | Test Value = 3 | | | | | |
| | T | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| conflictreduction | 4.605 | 54 | .000 | .63636 | .3593 | .9134 |

Further, One-Sample T-test was conducted in order to ascertain whether the sample is derived from a population with a specific mean and whether there is a difference between sample mean and a hypothesized value of the mean. In this sample, one-sample t-test yields a mean of 3.63 which is closer to the hypothesized value of 3 which suggests that there is not much difference in the values of sample mean and hypothesized mean. The p-value is .000 which is less than the determined level of significance of .05 which suggests that the mean value is significant and there is no big difference between sample mean and hypothesized mean values.

One-Way ANOVA

TABLE 5

| ANOVA | | | | | |
|------------------|----------------|----|-------------|--------|------|
| Conflictredution | | | | | |
| | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 17.040 | 2 | 8.520 | 11.163 | .000 |
| Within Groups | 39.687 | 52 | .763 | | |
| Total | 56.727 | 54 | | | |

In order to compare among three groups a One-way ANOVA test was conducted which gave the p-value of .000 F (2, 52) = 11.163, p =.000. The level of significance was kept at 95% which translates to 0.05. In this analysis the p-value is below the determined level of significance of 0.05 which suggests that there does exist a significant difference among the three levels of management.

The significant p-value in One-Way ANOVA enabled conducting of Post-Hoc Analysis tests wherein this study has undertaken Scheffe, Tukey HSD and Bonferroni Post-Hoc Analysis.

Post-Hoc Tests

TABLE 6

| Multiple Comparisons | | | | | | |
|---------------------------------------|----------------|----------------|-----------------------|------------|------|-------------------------|
| Dependent Variable: conflictreduction | | | | | | |
| | (I) typeofmgmt | (J) typeofmgmt | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |
| Tukey HSD | Top | middle | -1.60000* | .47850 | .004 | -.27544 -.4456 |
| | | lower | -.54032 | .46414 | .480 | -1.6601 .5795 |
| | Middle | Top | 1.60000* | .47850 | .004 | .4456 2.7544 |
| | | lower | 1.05968* | .25056 | .000 | .4552 1.6642 |
| | Lower | Top | .54032 | .46414 | .480 | -.5795 1.6601 |
| | | middle | -1.05968* | .25056 | .000 | -1.6642 -.4552 |
| Scheffe | Top | middle | -1.60000* | .47850 | .006 | -2.8058 -.3942 |
| | | lower | -.54032 | .46414 | .512 | -1.7099 .6293 |
| | Middle | Top | 1.60000* | .47850 | .006 | .3942 2.8058 |
| | | lower | 1.05968* | .25056 | .000 | .4283 1.6911 |
| | Lower | Top | .54032 | .46414 | .512 | -.6293 1.7099 |
| | | middle | -1.05968* | .25056 | .000 | -1.6911 -.4283 |
| Bonferroni | Top | middle | -1.60000* | .47850 | .005 | -2.7838 -.4162 |
| | | lower | -.54032 | .46414 | .749 | -1.6885 .6079 |
| | Middle | Top | 1.60000* | .47850 | .005 | .4162 2.7838 |
| | | lower | 1.05968* | .25056 | .000 | .4398 1.6795 |
| | Lower | Top | .54032 | .46414 | .749 | -.6079 1.6885 |
| | | middle | -1.05968* | .25056 | .000 | -1.6795 -.4398 |

*. The mean difference is significant at the 0.05 level.

In order to ascertain whether any significant difference occur among the opinions or not, post-hoc tests were conducted. Tukey HSD test was conducted in which p-values for middle and lower level management are .004 and .480 respectively, for top and lower level of management the values are .004 and .000 respectively, for top and middle levels of management the values are .480 and .000 respectively.

In Scheffe post-hoc test, the p-values for middle and lower levels of management are .006 and .512 respectively, for top and lower levels of management, the values are .006 and .000 respectively, for top and middle levels of management, the values are .512 and .000 respectively.

In Bonferroni, the p-values for middle and lower level management are .005 and .749 respectively, for top and lower level management they are .005 and .000 respectively, for top and middle level management, the p-values are .749 and .000 respectively.

In all the post-hoc analysis, this has been observed that as compared to the middle level management, there is not much difference of opinion observed in the responses of top and lower level management. In the Tukey HSD test, the values are .004 and .000 respectively, in Scheffe Post-hoc test, the values are .006 and .000 respectively and in Bonferroni Post-Hoc test, the values are .005 and .000 respectively.

Homogenous Subsets

TABLE 7

| Conflict reduction | | | | |
|---|--------------|----|-------------------------|--------|
| | Type of mgmt | N | Subset for alpha = 0.05 | |
| | | | 1 | 2 |
| Tukey HSD ^{a,b} | Top | 4 | 2.7500 | |
| | Lower | 31 | 3.2903 | |
| | Middle | 20 | | 4.3500 |
| | Sig. | | .394 | 1.000 |
| Scheffe ^{a,b} | Top | 4 | 2.7500 | |
| | Lower | 31 | 3.2903 | |
| | Middle | 20 | | 4.3500 |
| | Sig. | | .428 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | | |
| a. Uses Harmonic Mean Sample Size = 9.029. | | | | |
| b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed. | | | | |

7. Conclusion

The work conducted shows that conflict reduction can be possible through the implementation of a quality circles program. The advantage of this paper is it presents an unambiguous data based on the survey of the responses of all three levels of management in which they give response for the question of reduction of conflicts through quality circles program implementation.

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8. Limitations

- The limitations of this study are it did not clearly diversified what kinds of organizational conflict are lessened by quality circles program.
- This study did not underline in any way the role of conflict reduction in organizational harmony.
- Conflicts are also healthy in nature which can enable competitive spirit among the employees; it can also lead to make the employees driven for autonomy or fulfill the scarcity of resources.

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