

# A Study on Quality Circles Improve the Productivity of MSME

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## ABSTRACT

Quality Circles have repeatedly been suggested as a technique for enhancing employees involvement in and satisfaction with their work. The relationship between employees' participation in quality circle activities and their reactions to their jobs are very significant in MSMEs. The main aim of this study is to determine the factors responsible for quality circles in MSMEs. This study is completely based on primary data. The data is collected through a structured questionnaire. The researcher obtained 300 responses, each 100 from the MSME owners in Chennai guindy, Thiruvallur Ambattur and Kancheepuram perungudi through convenient sampling method. It is concluded that the Quality circle and its members in MSMEs optimistically perceived the goals of Quality Circles. They clearly ascertained the development of MSMEs is the primary aim of all the Quality Circles to remove flaws and negations in the work environment they meticulously identified the job evaluation methods pertaining to actual work assignments and nature of job in the organization.

**Keywords:** *Quality circles, Work Environment, Employee's participation*

## INTRODUCTION

Quality Circles have repeatedly been suggested as a technique for enhancing employees involvement in and satisfaction with their work. The relationship between employees' participation in quality circle activities and their reactions to their jobs are very significant in MSMEs. In every MSMEs members and non-members of quality Circles with reference to their perceived degree of actual and desired participation in decision making played a vital role in the productivity. The MSMEs owners are afraid that legal and quasi legal schemes of participation will increase employees and trade unions. These unions would influence the power and will erode managerial control. There are two natural questions arise with this preamble namely To what extent are the fears justified? How should the enterprise operating in a demographic frame work be directed and controlled?. The following literature reviews give evidences to answer the above mentioned questions.

## LITERATURE REVIEWS

Anat Rafaeli(2012)<sup>1</sup> –Involvement in a quality circle was found to have a significant relationship to employee's perception of influence, as well as to some job characteristics. No significant effect of QC membership on job satisfaction was found. The results are discussed in the context of the need for further validation of many arguments heard about Quality Circles.

Patrick R. Liverpool(2010)<sup>2</sup> –. The results indicate that the actual amount of perceived participation differed very little between QC and non-QC employees. Only in work related decisions did QC members indicate that they had some say or influence. Out side of these decision areas neither group of employees expressed a strong desire to have more than "some say" on most policy oriented decisions.

Hem C. Jain(2010)<sup>3</sup> – Workers participation in management decision making has always been a controversial subject. One of the problems, central to this controversy is management prerogatives. Business leaders are feeling increasing pressures for participation from workers and their organizations in areas of enterprise that were once exclusively reserved for management.

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Mitchell Ron(2009)<sup>4</sup> – The belief that Quality Circles are made in Japan and somehow “Un- American “ has hurt us in getting people we train and work with each day to accept the Quality circle concept.

Minqui Li(2010)<sup>5</sup> – the relationship between workers participation in management and firm performance is open to debate in economic theory. There has not yet been any empirical study on this subject regarding China. The author uses panel data of large and medium sized industrial enterprises in china’s hevan province, from a survey conducted in field research (2001 – 98), to study how participatory management affects firm performance. The author found that participatory management has large positive effects on state owned enterprises productivity.

## PRODUCTIVITY AND QUALITY CIRCLES

Kimberly Buch(2005)<sup>6</sup> – This study was designed to test the development of effects of Quality Circles(QCs) on participant’s job performance and promotions. A quasi experimental design was used to compare 118 circle members with 118 non-circle employees. In the year following the circle intervention, circle members received significantly greater performance ratings and were promoted more frequently than non-members. The developmental properties of the QC process believed responsible for these findings are discussed. Other possible explanations for the results are also proposed: visibility, positive evaluation bias, and anticipatory socialization.

Nelda Spinks, Barron Wells, Melanie Meche (2005)<sup>7</sup> - This research paper examined the role of appraisal and its impact on productivity and effectiveness. The appraisals were identified to be beneficial to both employers and employees. The study found that there were always ways of improving the available performance appraisal system. The evaluation of the leading software programs and comparison of the features were done. It was concluded that the products gave structure to the process and make appraisal easier.

Jay M. Jackman and Myra H.Strober (2009)<sup>8</sup> - This article highlighted the importance of feedback reviews both positive and negative and its impact on the relationship between the superior and subordinate. Organisations should provide employees the opportunities to adapt to changes and change accordingly. The study

also emphasised on Self assessment and feedback from superiors which guides the employees to develop faster. The organisations tried to follow adaptive techniques having a positive impact on the executives’ development and leverage feedback.

Dilip Dasgupta(2010)<sup>9</sup> - This article identified that only through the Competent and Potential employees an organisation could maintain its sustainable competitive advantage. It was observed that competency-based HR management aids performance management and career progression planning in an organisation. It was confirmed that by developing right attitude, the skills and knowledge of the employees were automatically and effortlessly upgraded

Lisa Bryant, Denise A. Jones and Sally K. Widener (2010)<sup>10</sup> - This paper investigate the relationship that existed among multiple performance measures to determine how they understand the creation of firm value. The designing of performance measurement system was supposed to consider all aspects of the business, not just the financial results. The data from 125 firms over a five year period were used to measure the outcome. The findings showed that the value creation process was better in all higher level BSC perspectives.

K Raghavendra Rao (2010)<sup>11</sup> - This article emphasized the different dimensions of rewarding the employees working for different types of organisations. Drastic changes have taken place in reward system since globalization. Rewarding the right people at the right time in the right way enhances their contribution to the organisation in terms of productivity. Organisations should identify the sensible performance indicators used to measure the employees performance. Industry standards were taken into account for fixing the rewards and compensation in various organisations to retain talent.

Shyamal Majumdar (2010)<sup>12</sup> - This article highlighted the various aspects of pay and the ways to retain best performers. In addition to usual monetary rewards acting as a hygiene factor, lifestyle benefits like flexitime, creches, travel overseas were provided. Some companies follow the system of variable pay package which is performance related. It also depended on the employee value proposition. Talented people choose to remain in those companies which could provide exciting work, a great company, attractive compensation and opportunities to develop.

### Objectives of The Study:

1. To study the factors responsible for quality circles in MSMEs.
2. To analyse the employees perception in MSMEs in the improvement of productivity.

### HYPOTHESIS

1. The factors of quality circles do not differ significantly.

### METHODOLOGY

This study is completely based on primary data. The data is collected through a structured questionnaire. The questionnaire consists of both optional type and Likert's five point scale with the range of strongly agree to strongly disagree. The data collected from all the sources are scrutinized, edited and tabulated.

The researcher obtained 300 responses, each 100 from the MSME owners in Chennai guindy, Thiruvallur Ambattur and Kancheepuram perungudi through convenient sampling method. The data are analyzed using SPSS (Statistical Package for Social Sciences) packages. The researcher applied KMO-Bartlett's test, and exploratory factor analysis to identify the factors of quality circle.

### ANALYSIS AND DISCUSSION

**Factor Analysis for Employees perception:** The concept of quality circle is primarily based upon recognition of the value of the workers in MSMEs, as

someone who willingly activates on his job, his wisdom, intelligence, experience, attitude and feelings. It is based upon the human resource management considered as one of the key factors in the improvement of product quality and productivity. Quality circles are essential to promote individual and organizational efficiency along with desired productivity increase in MSMEs. The employees in MSMEs in Chennai are requested to express their perceptions about Quality Circles at the point of inception. Their responses are obtained in Likert's 5 point scale which range from strongly agree to strongly disagree. 14 statements have been posed on them to obtain responses suitable for quality circles. Factor analysis, the principal component method is applied and the following results are obtained.

**Table 1: KMO and Bartlett's Test for Employees perception**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.813
Bartlett's Test of Sphericity	Approx. Chi-Square	1110.425
	Df	91
	Sig.	.000

Source: Computed data

From the above table it is formed that Kaiser – Mayer – Olkin measure of sampling adequacy is .813, Bartlett's test of sphericity and Chi-Square value is 1110.425 are statistically significant. This shows that the employees perception obtained from 500 samples is significantly explaining the data reduction process through Factor analysis. The following table gives the number of factors deduced into 4 predominant factors.

**Table 2: KMO and Bartlett's Test for Employees perception & Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1.	3.625	25.895	25.895	3.625	25.895	25.895	2.346	16.754	16.754
2.	1.346	9.618	35.512	1.346	9.618	35.512	1.995	14.251	31.005
3.	1.090	7.783	43.295	1.090	7.783	43.295	1.656	11.826	42.830
4.	1.018	7.270	50.565	1.018	7.270	50.565	1.083	7.735	50.565
5.	.929	6.636	57.201						
6.	.886	6.331	63.532						
7.	.865	6.177	69.709						

Contd...

8.	.746	5.331	75.040					
9.	.704	5.028	80.068					
10.	.666	4.757	84.825					
11.	.646	4.611	89.436					
12.	.527	3.763	93.199					
13.	.479	3.425	96.624					
14.	.473	3.376	100.000					

Extraction Method: Principal Component Analysis.

Source : Computed data

From the above table it is found that the four Eigen values 2.346, 1.995, 1.656 and 1.083 along with individual variances 16.754, 14.251, 11.826 and 7.735. The total variance explained by the 14 variables of perceptions about quality circles is 50.565 which is statistically significant. The four factors deduced so far are loaded with certain number of variables as shown in the table below

**Table 3: KMO and Bartlett’s Test for Employees perception & Rotated Component Matrix (a)**

	Component			
	1	2	3	4
Out circle is doing important work	.696			
I would recommend to any friends that they join a circle	.612			
I communicate with superiors more easily than I did in the past	.591			
My relationship with my work group is better than it has been in the past	.574			
Our circle has made a worth while contribution to the organization	.538			
I would join another circle if I was moved to another unit or area of work responsibility	.486			
I am satisfied with current evaluation method of QC projects		.731		
The time schedule provided by the department is sufficient for the QC project completion		.681		
Adequate facilities needed for QC presentations have been provided		.586		
Our efforts are appreciated within this company		.548		
I enjoy being a member of the circle			.679	
QC is an effective tool of total employee involvement			.605	
My experience with the circle have not been unpleasant and frustrating			.480	
The company has profited financially from out circle efforts				.914

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 9 iterations.

Source: Computed data

From the above table it is found that the first factor consist of 6 variables namely

Our circle is doing important work (.696)

I would recommend to any friends that they join a circle (.612)

I communicate with superiors more easily than I did in the past (.591)

My relationship with my work group is better than it has been in the past (.574)

Our circle has made a worth while contribution to the organization (.538)

I would join another circle if I was moved to another unit or area of work responsibility (.486)

Therefore the first factor is named as ‘**Organisational Development**’.

The second factor consist of 4 variables namely

I am satisfied with the current evaluation method of QC projects (.731)

The time schedule provided by the department is sufficient for the QC project completion (.681)

Adequate facilities needed for QC presentations have been provided (.586)

Our efforts are appreciated within this company (.548)

Therefore the second factor named '**Evaluation method**'

The third factor consist of 3 variables namely

I enjoy being the member of the circle (.679)

QC is an effective tool of Total Employee Involvement (.605)

My experience with the circle have not been unpleasant and frustrating (.480)

Therefore the third factor named '**Employee Involvement**'

The fourth factor consist of one variable namely

The company has profited financially from our circle efforts (.914)

Therefore the fourth factor named '**Profit earnings**'

## FINDINGS AND CONCLUSIONS

It is concluded that the Quality circle and its members in MSMEs optimistically perceived the goals of Quality Circles. They clearly ascertained the development of MSMEs is the primary aim of all the Quality Circles to remove flaws and negations in the work environment they meticulously identified the job evaluation methods pertaining to actual work assignments and nature of job in the organization. The powerful motivation is exerted as the consequences of Quality Circles by bringing the employees towards sustained and unstinted involvement in raising the organizational efficiency and profitability of MSMEs.

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