

To Study the Worker's Perspective on TQM Practices in a Small Scale Pigment Industry of India

Dr. Atul Loomba¹, Dr. Pooja Chaturvedi², Dr. C. K. Buttan³

^{1,2}Assistant Professor, Management Department, AISECT University, Bhopal (M.P.) India.

³Professor & Head, Department of Commerce & Management Studies, Saifia College, Bhopal (M.P.) India.

ABSTRACT

Quality is an essential element in our lives today and was in existence since 1911 itself. The central idea of any quality attitude is doing the right things right the very first time. Total quality management refers to the total involvement of staff in an organization together, which includes suppliers, distributors and even customer in bringing about quality satisfaction by promoting quality culture all the way through quality circles, workers and supervisors have to be trained to solve the problems in process variation. This study is primarily based on primary data and secondary data which were used to sustain this study. The population of the study consists of the workers working in the pigment industry. The connotation of TQM at this company from various aspects has been the focal point of this study. These three different spheres of TQM were studied and the repercussion of each sphere was observed. The above mentioned spheres include quality control tool, total productive maintenance and also quality circles. The described objectives and hypothesis were based on these spheres and created a foundation for the study. This study led to a conclusion that the quality control tools are ineffective, no significant impact of total productive maintenance and quality circles are there.

Keywords: - Total Quality Management, Just in Time, Supply Chain Management, Service Quality.

I INTRODUCTION

Quality is an essential element in our lives today and was in existence since 1911 itself. The central idea of any quality attitude is doing the right things right the very first time. Many quality Philosophies like Total Quality Management (TQM), just in – Time (JIT), Supply chain management, service quality and more have been integrated into management processes these days in light to provide quality embedded goods and services to customers TQM was developed in the mid 1940's by Dr Edward Depring who convinced the Japanese to accept this philosophy a head of the Americans. Quality Philosophy is based on the conception that every aspect of the organization can be improved. The Japanese on the other hand learn the process of never ending improvement as Kaizen.

Progress and success of the TQM implementation depends on the extra mile walked by the company over and above competitions in providing customer satisfaction employee satisfaction as well as colleague cum peer satisfaction.

Total quality management refers to the total involvement of staff in an organization together, which includes suppliers, distributors and even customer in bringing about quality satisfaction by

promoting quality culture all the way through quality circles, workers and supervisors have to be trained to solve the problems in process variation.

(a) Five elements of TQM

To be successful implementing TQM, an organization must recital rate on the five key elements

- (i) Commitment to quality
- (ii) Focus on customer satisfaction
- (iii) Assessment of the organizational culture
- (iv) Empowerment of employees and terms
- (v) Measurement of quality

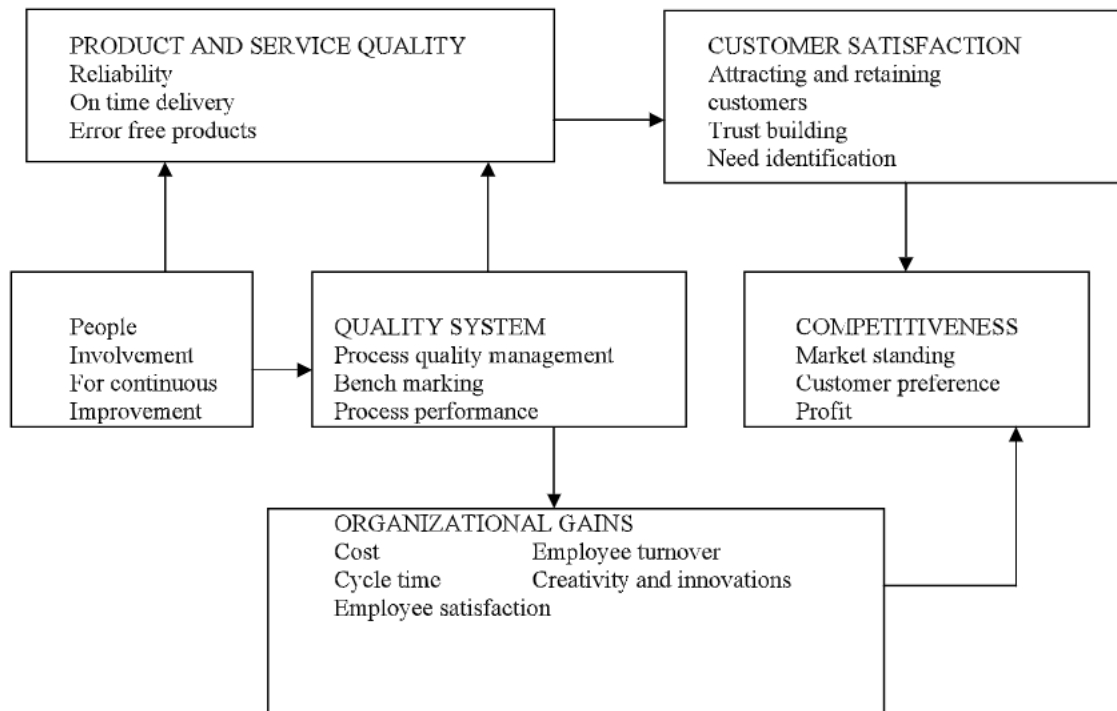
(b) Stages of implementation of TQM

The course of action of implementing TQM in an organization can be organized in the following four stages

- (i) Identification and preparation.
- (ii) Management understanding
- (iii) Scheme for improvement
- (iv) Critical analysis

(c) TQM Model

Customer satisfaction is focus of TQM. The model highlights how the implementation of TQM benefits the company in long term and short term and in turn achieves customer satisfaction.



(d) Characteristics of TQM

There are four major characteristics

- (i) Totality
- (ii) Documentation
- (iii) Improvement
- (iv) Foundation

(e) TQM Approach

- (i) Plan
- (ii) Do
- (iii) Check
- (iv) Act

(f) Principles and Actions of TQM

Principles	Actions
The approach	Management led
The scope	Company wide
The scale	every one is responsible for quality

The Philosophy	Prevention not detection
The standard	Right first time
The control	Lost of quality
The theme	Continuous improvement
The dimension	Human, technical and cultural

(g) Benefits of TQM

- (i) Reduces cost and time.
- (ii) Job satisfaction and reduced turnover of employees.

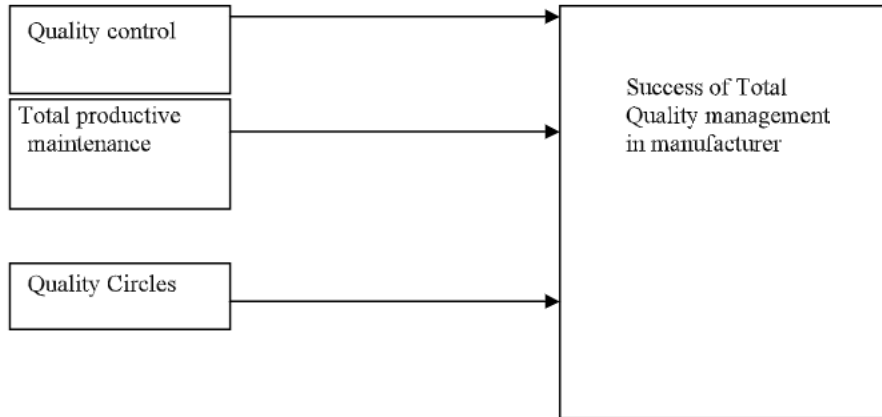
- (iii) Increase in productivity.
- (iv) Good reward for all the shareholder.

(h) Factors involved in the devastating failure of TQM

- (i) Shared vision
- (ii) Application planning
- (iii) Organizational commitment
- (iv) Training
- (v) Reward systems
- (vi) Empowerment
- (vii) Cross functional integration

II REVIEW OF LITERATURE

(a) Theoretical model



(b) Quality Control Tools

Tool	Description
Cause and Effect	Basic to quality improvement is the need to identify the root causes of a problem. The cause effect diagram is an effective way to organize and display the various theories about what those root causes might be.
Control Chart	A statistical control chart is a graphic comparison of process performance data to compute “statistical control limits” drawn as limit lines on the chart. The process performance data usually consist of groups of measurements that come from regular sequence of production while preserving the order of data.
Flow Chart	A flow diagram is a graphic representation of the sequence of steps that we perform to produce some output. The output may be a physical product, a service, information, or a combination of the three.
Ganu Chart	Ganu chart is a schedule monitoring tool that uses horizontal bars to show which task can be done simultaneously over the life of the project.
Histogram	A histogram is a graphic summary of variation in a set of data. The pictorial nature of the histogram enables us to see patterns that are difficult to see in a simple table of numbers.
Parcto Chart	Parcto analysis is a ranked comparison of factors related to a quality problem. It helps a quality improvement project team to identify and focus on the vital few factors.
Radar Chart	Radar chart visually show in one graphic the size of the gaps among a number of both current organization performance arcas and ideal performance areas.
Run chart	Run chart allows teams to study observed data for trends or patterns over a specified period of time.
Scatter Diagram	A scatter diagram is a graphic presentation of the relationship between two variables. In quality improvement, scatter diagram are usually used to explore cause – effect relationships in the diagnostic journey.

(c) The 8 – Pillar Activity

Autonomous Maintenance	Maintaining Basic Condition on shop floor and in machines All over participation through TPM Circles.
Focused Improvement	Improvement in everyone's activity. Improvement is to eliminate Production losses and reduce cost.
Planned Maintenance	Logical analysis "real causes for real counter measures" Focus on Prevention. Improvement in Reliability, Maintainability and cost.
Quality maintenance	Developing Perfect Machine for Perfect Quality. Eliminating in process defects and customer complaints.
Office TPM	Offices oriented for Excellent support for manufacturing. Improving offices Man – hour efficiency
Education & training	Skill Development for uniformity of work practices on machines. Skill for zero defects, zero breakdowns and zero accidents. Multi – skilled employees in all departments.
Safety, Health & Environment	To achieve zero accidents, zero health hazards at work. To maintain zero pollution plant and Environment.
Development Management	Developing machines for "high equipment effectiveness". Quick process for developing new products.

(d) Quality Circle Concept

- (i) Quality Circle is a form of participation management.
- (ii) Quality Circle is a human resource development technique.
- (iii) Quality circle is a problem solving technique.

(e) Objective

The objectives of Quality Circles are multi – faced.

- (i) Change in Attitude.
From "I don't care" to "I do care"
Continuous improvement in quality of work life through humanization of work.
- (ii) Self Development
Bring out 'hidden Potential 'of people
People get to learn additional skills.
- (iii) Development of Team Spirit
Individual Vs Team – "I could not do but we do it"
Eliminate inter departmental conflicts.
- (iv) Improved organization Culture
Positive working environment.
Total involvement of people at all levels.
Higher motivational level.
Participate Management process.

III ORGANISATION STRUCTURE

A Quality circle has an appropriate organizational structure for its effective and efficient performance. It was from industry to industry, organization to organization. But it is useful to have basic framework as a model. The structure of a Quality Circle consists of the following elements.

- (a) A steering committee: This is at the top of the structure. It is headed by a senior executive and includes representative from the top management personnel and human resources development people, plans and directs the program and meets usually once in a month.
- (b) Coordinator: He may be a personnel or Administrative officer who co-ordinates and supervise the work of the facilitators and administers the programmed.
- (c) Facilitator: He may be a senior supervisory officer. He co-ordinates the works of several quality circles through the Circle leaders.
- (d) Circle leader: Leaders may be from lowest level workers or Supervisors. A Circle leader organizes and conducts Circle activities.

Circle members: they may be staff workers. Without circle members the programme cannot exist. They are the lifeblood of quality circles. They should attend all meetings as far as possible offer suggestions and ideas, participate actively in group process, and take training seriously with receptive attitude. The roles of steering Committee, Coordinator, Facilitator, Circle leader and circle members are well defined.

(a) Objective

- (i) To analyze the effectiveness of quality control tools in the company.
- (ii) To study the impact of total productive maintenance in the company.
- (iii) To study the advantage of quality circles adopted by the company.

(b) Hypothesis

- (i) The quality control tools are not effective in identifying the areas of problem and in measuring the quality of work in the company.
- (ii) There is no significant impact of total productive maintenance in the company.
- (iii) There is no significant benefit resulted from quality circles in the economy.

IV RESEARCH METHODOLOGY

This study is primarily based on primary data and secondary data which were used to sustain this study. The population of the study consists of the workers working in the pigment industry. From this population 100 samples were taken randomly for this study, I was working in that organization it was easier for me to access them for the survey. A total of 150 questionnaires were sent through the email. The survey was carried out during Dec 2015 nearly 125 questionnaires were received. After a careful checking 100 questions were found suitable for this study.

The data were collected through a pre-tested mailed questionnaire. The pre-test of the questionnaire was done with the help of pilot study. A total of 5 samples were taken through the convenience survey to test the questionnaire and test the validity of the questions. The questions were designed to assess and test the sentiments and knowledge of employees with respect to the various changes that were brought about by the elements of the TQM strategies. The employees who responded were from various hierarchical of the company.

The secondary resources were also collected from various journals, articles and books thoughts of various authors, whether positive or negative on the subject matter.

V RESULT AND DISCUSSION

Table 1
Employee's age distribution

	Frequency	Percent
<20 years	5	5
20-30 years	50	50
30-40 years	30	30
40-50 years	10	10
> 50 years	5	5
Total	100	100

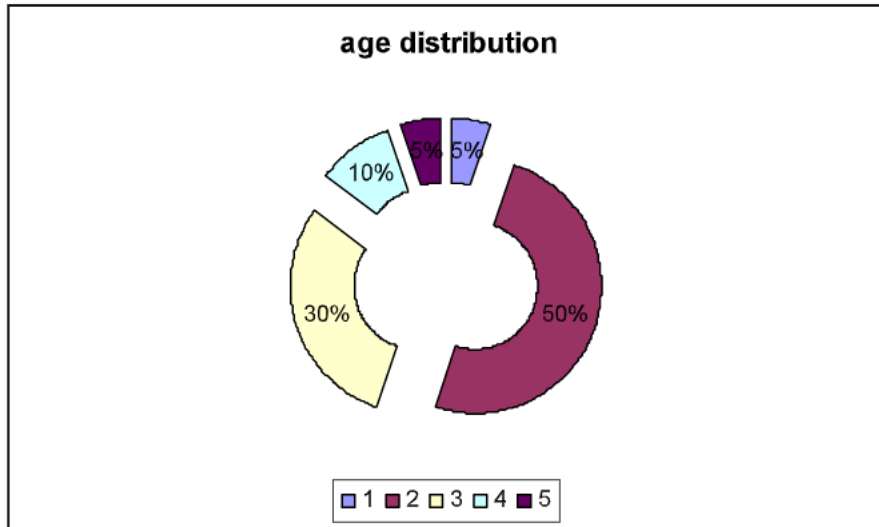


Table 2
Employee's gender distribution

	Frequency	Percent
Female	60	60
Male	40	40
Total	100	100

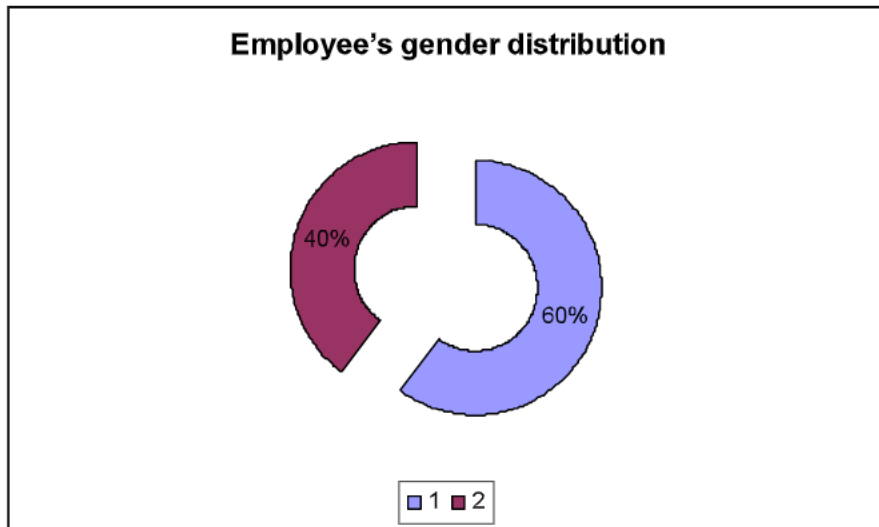


Table 3
Employee's qualifications

	Frequency	Percent
Secondary level	5	5
Diploma level	15	15
Higher diploma level	30	30
Degree level	45	45
Post graduate level	5	5
Total	100	100

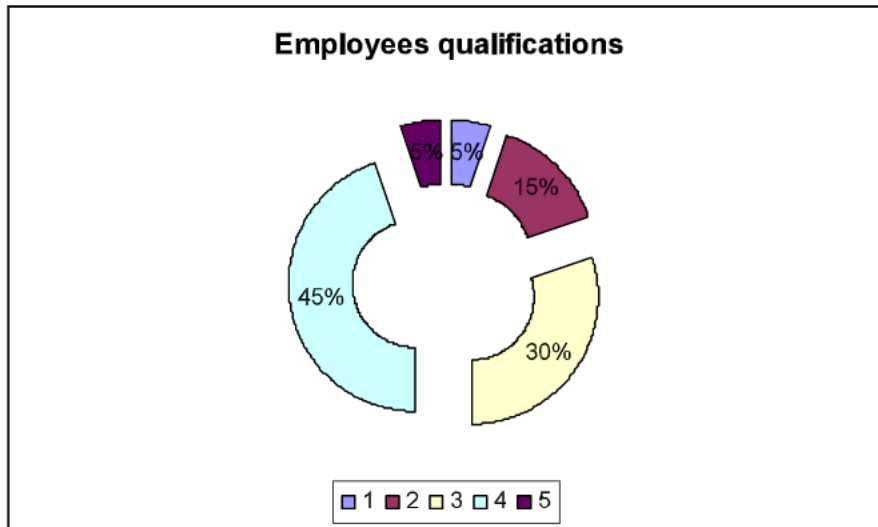


Table 4
Employee's job function

	Frequency	Percent
Management	25	25
Operations	30	30
Administration	20	20
Customer service	20	20
Others	5	5
Total	100	100

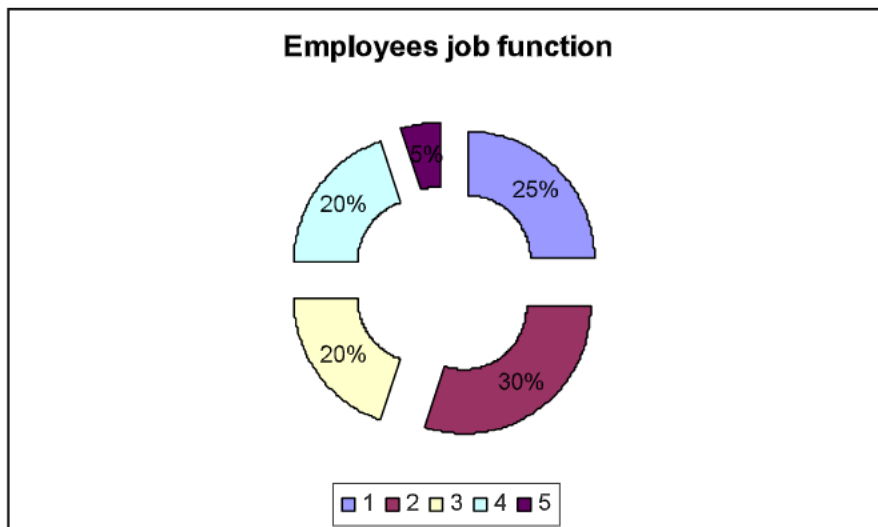


Table 5
View/ element

	Effectiveness of quality control tool		Significance of total productive maintenance		Benefits of quality circle	
	Nos	%	Nos	%	Nos	%
Yes	30	30	15	15	40	40
No	70	70	85	85	60	60

The explanation research method was utilized to gain an insight which is expected to bridge the gap between the theory available with regards to the success of TQM implementation through the various elements like quality control tools, TPM and also quality circles as opposed to the reality of practice in the company. The literature review had to a great extend provided information pertaining to the research problem and also in identifying the issues contiguous the success of TQM strategy

implementation in an organization and also the factors involved in promoting this success.

Hypothesis I

HO1: The quality control tools are not effective in identifying the areas of improvement and in measuring the quality of work within the company.

HI1: The quality control tools are effective in identifying the areas of improvement and in measuring the quality of work with in the company.

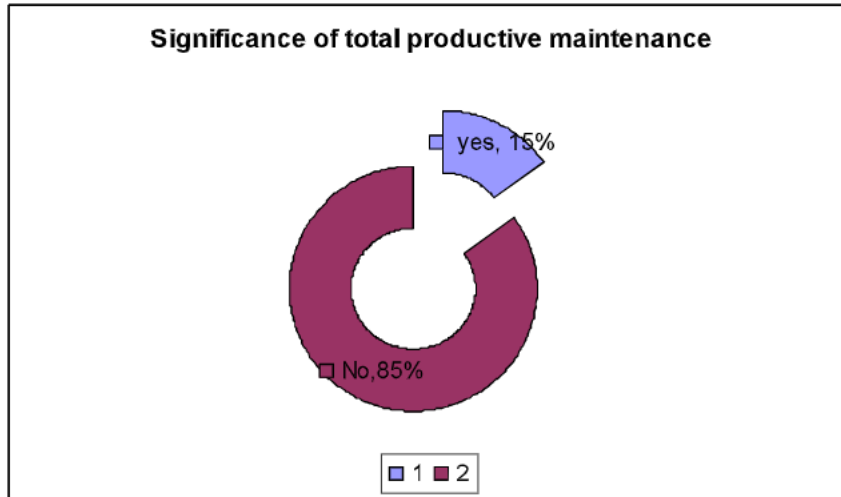


The analysis above fulfills the conditions for the alternative hypothesis. As such it can be said that the quality control tools utilized by the company are not effective in identifying the areas of improvement and in meaning the quality of work with in the company. This may be due to lack of training in this area if the company concentrate more on training and embrace it seriously, these technique will help these companies to improve their operations. In categorize to make quality tools a success, the company should find something important to their operations decide

what the company wares to find out, identify all assignable cause of a variation and develop a timely monitoring system and the company should empower their employees to make it a real success. It requires commitment from top management and quality control should be integrated into TQM.

HO2: There is no significant impact of TPM in this company.

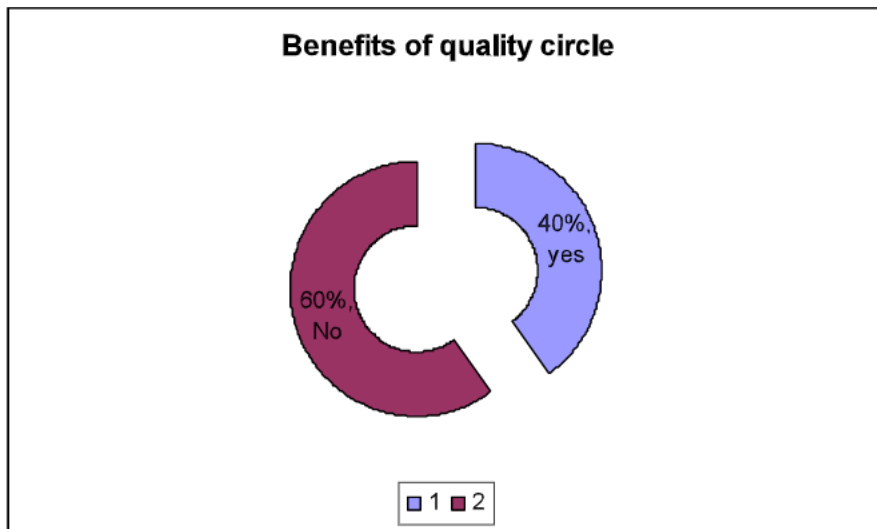
HI2: There is significant impact of TPM in this company.



The null hypothesis is accepted which state that there is no significant impact of TPM in the company. This is evident from table and this may be due to improper adoption of the technique without proper training. They should understand if TPM is adopted properly, its corrective action programme can take the endemic problems with immediate hot care.

HO3: There is no significant benefit because of quality circles in the company.

III3: There is significant benefit because of quality circles in the company.



I would confidently reject the alternate hypothesis and accept the null hypothesis which states that quality circles are no advantage to the company (Table). The reason may be due to lack of employee empowerment. Employees should be trained in broader problem solving methods including different management skills Top management must unhook them from their functional mooring by delaying authority to lower level area functional teams who have decision rights to implement process changes using quality circles. Management behavior and the organization

culture must become consistent over time with quality circles and TQM philosophy.

VI CONCLUSION

The connotation of TQM at this company from various aspects has been the focal point of this study. These three different spheres of TQM were studied and the repercussion of each sphere was observed. The above mentioned spheres include quality control tool, total productive maintenance and also quality circles. The described objectives and hypothesis were based on these spheres and created a foundation for the study. This study led to a conclusion that the quality control tools are ineffective, no significant impact of total productive maintenance and quality circles are there.

In this study, it has been proved that the current quality control tools utilized by the company were ineffective. As such company should concentrate more on improving these quality control tools to fulfill one of the basic requirements of TQM which may require a consistent statistical measurement of quality in order to monitor the performance within the company. All employees of the company should be encouraged to learn and understand these tools in a better way to a level required by their job. The manufacturer must therefore look further into better prospects of employee training involving the various quality tools. Quality circles are known to encourage the stimulation of ideas amongst employees. This further provides the employee with a sense of direction, achievement and commitment. New ideas and new thoughts can be profitable to the company not monetarily but morally as the morale of the employees is boosted where there is a sense of belonging. In order to make TQM program success, the manufacturer should focus more on training programs to bring more awareness. Top management should also increase their commitment. All the relevant programs should be properly implemented, as poor implementation may make the program a failure. TQM should not be viewed as a passing fad and it should be adopted with deep commitment for successful implementation. In TQM, there is a quest for self improvement where cultural change, use of quality control and other concepts have a part to play. The concept of never having time to do something properly, but always having time to do it twice is challenged TQM should be looked as a system of interdependent components where even if one components is missed, the entire system will fail and the desired result will not be achieved. The manufacturer should understand the importance of TQM as a very powerful tool in achieving success within an organization. It is vital to carefully implement this philosophy in stage to ensure that it provides benefits to the company. The manufacturer should understand that implementation of TQM requires a redesigning of

the way. The organization works, the management must provide the support, appropriate level of training and personalized appraisal systems in order to boost the morale of the employees at all time.

REFERENCES

- [1] Martand Telsung (2002), Industrial Engineering and production Management, S. Chand & Company Ltd.
- [2] M.Mahajan (1997), Statistical Quality Control, Dhanpat Rai & Co.
- [3] Inran J.M. (1974), Quality Control Handbook, McGraw Hill, New york
- [4] Gurusamy S (1998), ‘ Cost of quality – A gateway to TQM ‘ Productivity
- [5] Peigenbaum A .V. (2001)’ ‘ how to Manage for Quality in Today’s Economy ‘, Quality Progress