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## CONTENTS

| Sr. No.   | TITLE & NAME OF THE AUTHOR (S)  | Page No.       |
|-----------|---|----------------|
| <u>1</u>  | <b>Threshold effects in the relationship between oil revenues and growth in oil exporting countries.</b><br>Mohsen Mehrara and Seyed Mohammad Hossein Sadr  | <u>1-19</u>    |
| <u>2</u>  | <b>Management of E-Waste- Black to Green.</b><br>Dr. D. Sudharani Ravindran, Hari Sundar. G. Ram and M. Sathish   | <u>20-33</u>   |
| <u>3</u>  | <b>Customer Retention In Nationalised Banks In Erode of Tamilnadu.</b><br>Dr. S. M. Venkatachalam and Ms. R. Anuradha   | <u>34-67</u>   |
| <u>4</u>  | <b>The Use of Visual Cues and Metaphors in Advertising.</b><br>Vikram Kapoor  | <u>68-84</u>   |
| <u>5</u>  | <b>Library Administration Vs Management.</b><br>J. B. Parmar and A. B. Parmar   | <u>85-98</u>   |
| <u>6</u>  | <b>Crisis Management.</b><br>Dr. (Mrs.) A. Kumudha and Mr. K. Prabakar  | <u>99-110</u>  |
| <u>7</u>  | <b>Organizational Competency Management: A Competence Performance Approach.</b><br>Dr. A. Kumudha, K. Prabakar and Benny J. Godwin  | <u>111-121</u> |
| <u>8</u>  | <b>Impact of Just-In-Time Production Towards Global Competitiveness Through Competency Management.</b><br>Dr. A. Kumudha, Benny J. Godwin and K. Prabakar   | <u>122-133</u> |
| <u>9</u>  | <b>Data Mining Issues and Key to Success.</b><br>Deep Mala Sihint   | <u>134-149</u> |
| <u>10</u> | <b>Synthesis of MCM-41 via different routes.</b><br>Ranajyoti Das and Bharat Modhera  | <u>150-171</u> |
| <u>11</u> | <b>Green Marketing – A Bridge Between Consumerism And Conservation.</b><br>Richa Arora and Nitin R. Mahankale   | <u>172-184</u> |
| <u>12</u> | <b>An Empirical Study On The Effect of Payment Mechanism For Purchasing Intention – The Moderating Effect of Consumer Involvement in Selected Product Categories in Vadodara.</b><br>CS. Ashutosh A. Sandhe, Dr. Amit R. Pandya and DR. Abhijeet Chatterjee | <u>185-213</u> |
| <u>13</u> | <b>A New approach to Sensor less vector control of induction motors.</b><br>G. Srinivas and Dr. S. Tarakalyani  | <u>214-228</u> |
| <u>14</u> | <b>Eyes Bamboozling the Mind: Use of Optical Illusion in Advertising.</b><br>Vikram Kapoor  | <u>229-247</u> |
| <u>15</u> | <b>Perception Of Employees Towards Performance Appraisal In Insurance Sector.</b><br>Rita Goyal   | <u>248-276</u> |
| <u>16</u> | <b>Process Improvement of an Organization Enhancing Better Quality System – Applying TQM.</b><br>Bhupender Singh, O. P. Mishra and Surender Singh   | <u>277-289</u> |

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**Title**

**PROCESS IMPROVEMENT OF AN ORGANIZATION  
ENHANCING BETTER QUALITY SYSTEM –  
APPLYING TQM**

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**ABSTRACT:**

At present customer satisfaction is the prime objective of any organization. Customer can be either internal or external. From various practices outcome we have realized that TQM is the best quality programme for replacing older Quality system with ultimate goal as customer satisfaction. In this paper we have developed a process model to compare ISO 9001 to TQM. TQM helps to achieve incremental improvements continuously requiring full participation and involvement of all stakeholders of the organization that are shown in stated reasons and implied reasons. It is a combination of quality and management tools aimed at increasing business and reducing losses due to wasteful practices. The concept and principles, though simple seem to be creeping back into existence by "bits and pieces" through the evolution of the ISO9001. The latest changes coming up for the ISO 9001:2000 standard's "Process Model" seem to complete the embodiment. TQM is the concept that quality can be managed and that it is a process.

**Keywords:** TQM, ISO 9001: 2000, Customer Satisfaction, Employee Satisfaction

**1. Introduction:**

Total Quality Management, TQM, is a method by which management and employees can become involved in the continuous improvement of the production of goods and services Where Planning, organizing, controlling and applications of tools, techniques, human factors, programs, influencing agents, ideas, support systems and other factors which assist in improving the total quality of product, services, intellectual property rights (IPR), work environment, customer satisfaction and profitability to company may constitute total quality management (TQM). Apart from any influence derived from implementation, some authors advocated that certification could be a good first step toward a total quality management (TQM) system, raising awareness of quality among workers and a good climate in which to implement it. Management Quality System standard. Companies who have implemented TQM include Ford Motor Company, Phillips Semiconductor, SGL Carbon, Motorola and Toyota Motor Company. The following information is provided to give an understanding of the key elements of this process. The focus of ISO 9000, a program started in 1987 by the International Organization for Standardization, is

to make sure that companies have standard processes in place that they follow: "Document what you do and do what you document." ISO 9000 involves a third-party registration program (UL -- Underwriters Laboratories -- is one such registrar) certifying that companies are following documented processes.[1]

Applying the TQM in organization

## **2. Following are the steps to implement TQM:**

- a) Pursue New Strategic Thinking Know your Customers
- b) Set True Customer Requirements
- c) Concentrate on Prevention, Not Correction
- d) Reduce Chronic Waste
- e) Pursue a Continuous Improvement Strategy
- f) Use Structured Methodology for Process Improvement
- g) Reduce Variation
- h) Use a Balanced Approach
- i) Apply to All Functions

### **2.1. Processes must be managed according to following procedure:**

- Defining the process
- Measuring process performance (metrics)
- Reviewing process performance
- Identifying process shortcomings
- Analyzing process problems
- Making a process change
- Measuring the effects of the process change



- Communicating both ways between supervisor and user .

### 3. **The standards for the ISO 9000 family deal with the following areas:**

- a) **Quality management systems** - establishing and monitoring the process whereby product and service quality are maintained.
- b) **Management responsibility** - how the management establish, maintain, monitor and communicate their commitment to the standards.
- c) **Resource management** - how the business provides the resources - both physical and human - to enable the standards to be met and maintained.
- d) **Product realisation requirements** - how businesses establish and monitor quality from concept to final product delivery.
- e) **Measurement, analysis and improvement requirements** - how businesses use data to monitor their quality control and how this data is used to improve quality provision.

### 4. **TQM Compared to ISO 9001:**

ISO 9000 is a Quality System Management Standard. TQM is a philosophy of perpetual improvement. The ISO Quality Standard sets in place a system to deploy policy and verifiable objectives. An ISO implementation is a basis for a Total Quality Management implementation. Where there is an ISO system, about 75 percent of the steps are in place for TQM. The requirements for TQM can be considered ISO plus. Another aspect relating to the ISO Standard is that the proposed changes for the next revision (1999) will contain customer satisfaction and measurement requirements. In short, implementing TQM is being proactive concerning quality rather

### 5. **Research methodology:**

The questionnaire was designed based on extensive literature review and discussion with

Managers and researcher. The first part of the questionnaire concerns the basic information of the firms, the second part relates the implementation degree of production technology and the final part measures the PP and Control (PPC) performance. Except for the questions in part I, all inquiries are to be answered on the 5-point Likert-scale, corresponding to the degree of agreement with the statement. Questionnaires were sent to the attention of the “quality manager” without specifying their name of the manager, since the database did not contain this information. Inside each envelope we included a presentation letter, a questionnaire and a pre-paid addressed envelope to be returned with the fulfilled questionnaire. In the letter, quality managers were offered a future summary of final conclusion. There are three important processes in manufacturing enterprises, including design, manufacturing and service. Data mining techniques can be used in all three processes to improve the quality of manufacturing processes and final products

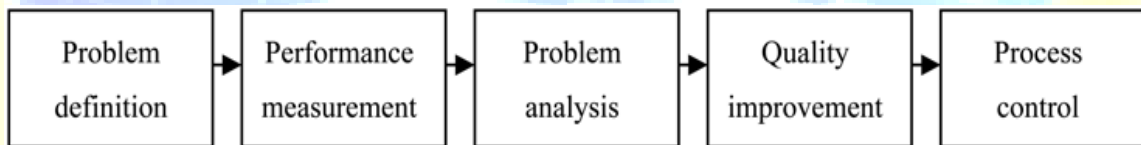


Figure 1.0

A policy of **zero defects** - any problems in the production process are filtered out before they get anywhere near the customer.

- **Quality chains** - each stage of the production process is seen as being a link in the chain right down to the relationship between one worker in the process and another.
- **Quality circles** - meetings of those directly involved in the production process to discuss and solve problems and make improvements to the production process.
- **Statistical monitoring** - the use of data and statistics to monitor and evaluate production processes and quality.
- **Consumer feedback** - using market research and focus groups to identify consumer needs and experiences and to build these into the process.

- **Changing production methods** - many businesses, where appropriate, have looked at the layout of their production processes - it could be the move to open plan offices, the development of teams or the use of cell production to improve worker commitment to the philosophy

Table 1.1

| TQM Process Improvement and Problem Solving Sequence   |  |  |  |   |  |
|--|--|--|--|---|--|
| plan<br>(plan a change)  |  | do<br>(implement the change)   |  | check<br>(observe the effects)  | action<br>(embed the fix into the process for good)  |
| Define the problem   | Identify possible causes   | Evaluate possible causes   | Make a change  | Test the change   | Take permanent action  |
| 1. Recognize that what you are doing is a "PROCESS"<br>2. Identify the commodity being processed.<br>- Process Inference<br>3. Define some measurable characteristics of value to the commodity.<br>4. Describe the "PROCESS"<br>o Process Flow Analysis's<br>o Flow charts<br>o List of steps<br>5. Identify the "Big" problem<br>o Brainstorming<br>o Checklists | 6. "BRAINSTORM" what is causing the problem.<br>7. Determine what past data shows.<br>o Frequency distribution<br>o Pareto charts<br>o Control charts - sampling | 8. Determine the relationship between cause and effect<br>o Scatter diagrams<br>o Regression analysis<br>9. Determine what the process is doing now<br>o Control charts - sampling | 10. Determine what change would help<br>• Your knowledge of the process<br>• Scatter diagrams<br>• Control Charts - sampling<br>• Pareto analysis<br>****Then make the change. | 11. Determine what change worked (confirmation).<br>• Histograms<br>• Control charts - sampling<br>• Scatter diagrams | 12. Ensure the fix is embedded in the process and that the resulting process is used.<br>Continue to monitor the process to ensure:<br>A. The problem is fixed for good.<br>and<br>B. The process is good enough<br>o Control charts |



o Pareto analysis

- sampling  
\*\*\*\*To ensure continuous improvement, return to step 5.

## **6. Conclusions:**

The first statement advocated that companies that implemented the TQM system in first place and later the ISO 9000 would get fewer benefits from certification than companies that had implemented ISO 9000 firstly. To test this hypothesis we created a new variable as the difference of the years since the company started to apply TQM and ISO 9000. The main results which are getting are Stated and Implied reason

### **Stated reasons**

- . Customer satisfaction
- . Profitability
- . Quality of product

### **Implied reasons**

- . Productivity improvement
- . Increased customer base (market share)
- . Customer loyalty
- . Reputation in market
- . Low cost of quality
- . Optimum utilization of resources
- . Improved work culture

. Employee satisfaction

The presented frame work may be used by company striving to achieve the full benefits of TQM , First the fear of change must be removed from the organization.

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