

TOTAL QUALITY ENVIRONMENTAL MANAGEMENT IN INDIA (WITH SPECIAL REFERENCE TO PUBLIC GRIEVANCES AT GRASS ROOT LEVEL)

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ABSTRACT

Total Quality Management is often associated with the development, deployment, and maintenance of environmental systems that are required for various processes. Total Quality Environmental Management is a participative, systematic approach to planning and implementing a continuous organizational improvement process. Its approach is focused on satisfying customers' expectations, identifying problems, building commitment, and promoting open decision-making among workers. Democratic management style is the best management style for effective environment management because it encourages people's participation, and helps to improve environmental awareness and education. The public grievance committee at ground level will be proved as the foundation stone for the success of the democratic management style in the environment area.

KEYWORDS: *Environment Management, Decision Making, Management Style, Systematic Approach.*

Introduction

Total Quality Environmental Management (TQM) is a management concept which aims at reducing the errors produced during the service process, increasing public satisfaction, streamlining supply chain management, aiming at the modernization of equipment and ensuring workers for the highest level of training. Total Quality Management is often associated with the development, deployment, and maintenance of environmental systems that are required for various processes. "Total Quality Environmental Management (TQM) is a participative, systematic approach to planning and implementing a continuous organizational improvement process. Its approach is focused on satisfying customers' expectations, identifying problems, building commitment, and promoting open decision-making among workers. TQM applies analytical tools, such as flow and statistical charts and check sheets, to gather data about activities within an organization. TQM uses process techniques, such as nominal groups, brainstorming, and consensus forming to facilitate communication and decision making."¹

Elements of TQEM

Total quality environment management is the essence of environmental performance evaluation which requires certain steps discussed as under-

Identify Public Opinion

TQEM is based on the premise that administration should know about the public opinion. This opinion will be helpful in people's active participation.

Continuous Improvement

It is necessary to introduce a continuous improvement system to upgrade the quality of environmental programme. This improvement should be planned proper and systematic.

Identify the Key Factors

For the improvement in total quality environmental management, it is necessary to identify the factors which are more important to know the key factors. It is necessary to recognize and eliminate the problems in key factors before starting the environmental programme.

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Follow the Systems Approach

TQEM teaches us to look at each part of environmental management as a system. The system includes all of the sectors and people who must work together to achieve the desired objectives. Interactions of people and decision making procedures can be flow-charted and analyzed as a system. This focuses attention on what is wrong with the system, instead of forcing blame on an individual.

P-D-C-A Cycle

To achieve the objectives of environmental management through the system approach, an action plan is required to begin the process of continuous improvement. One widely used tool for developing an action plan is the P-D-C-A cycle. "The P-D-C-A cycle is a systematic method for continual process improvement based on the principle that we need to understand a situation or process before we can improve it. It is a data based action."² Steps of P-D-C-A cycle are discussed as follows:

- **Plan:** Identify people's requirements and make improvement plan on the basis of data and measurements which provide results and meet their requirements.
- **Do:** Follow the plan and avoid inserting any changes. If there is a major change, start again at step 1.
- **Check:** Observe the implementation of the plan and measure the required changes. Use statistical techniques to measure the changes if possible.
- **Act:** Make changes in the process to reflect what we have learned. This step translates the learning into a systemic improvement.
- **Repeat:** Repeat the P-D-C-A cycle incorporating the knowledge gained. Continue the cycle, delivering the greater quality to improve environmental protection.

An EMS follows a Plan-Do-Check-Act Cycle, or PDCA. The process includes developing an environmental policy, planning the EMS, and then implementing it. The process also includes checking the system and acting on it.

SWOT Analysis

SWOT (Strengths and Weaknesses, and Opportunities and Threats) is a basic analytical tool in management that has become popular in recent years. SWOT analysis is often used by strategic planners and top management in developing competitive strategies. It is typically used to decide corporate strategies and make the product or market level analyses. Now it is an important technique for environment management. "SWOT is a widely used thinking framework for identifying Strengths, Weaknesses, Opportunities and Threats. It enables key factors to be visibly recorded as a high-level summary of a system."³ The use of SWOT enables an assessment to be made of the overall internal state of a system and the direction in which it is heading, through looking at its Strengths and Weaknesses. The SWOT analysis on its own is not a strategy. It is merely a tool that helps a system in making informed decisions. The SWOT analysis is primarily used to identify and analyze the strengths and weaknesses of the system, as well as the opportunities and threats exposed by the information collected from the external environment. The SWOT analysis is a simple yet useful tool in analyzing both the internal and external environments of the system. SWOT analysis together with other tools such as PEST (Political, Economic, Social, and Technological) analysis can be used as a basis for the analysis of environmental factors.

PEST Analysis

"A PEST analysis looks at the Political, Economic, Social and Technological drivers of a particular industry. PEST are external factors that must be analyzed and understood in order to make a system successful."⁴ The PEST analysis focuses on the external forces that affect the system. It is very useful when used together with other tools such as the SWOT analysis.

- **Political Factors:** These factors may have direct or indirect impact on the system's operation. Decisions made by the Government may have an effect on the workings of the system. PEST analyses the factors and update the system accordingly.
- **Economic Factors:** The system is affected by economic factors. Economy also affects the purchasing power and behavior of the public.
- **Sociological Factors:** It includes the demography, lifestyle, cultural aspects of the public. These factors have an immense influence on the organizational needs and wants.
- **Technological Factors:** Technological change plays an important role in shaping how organizations operate. Technological factors are important in gaining competitive advantage.

Technological innovations can improve production efficiency, quality and speed. New technology is changing how organizations operate. Analysis of all the above factors will be helpful to improve the management of environmental affairs.

Hypothesis

The study is based on the hypothesis that:

- Democratic management style is not an effective management style for successful environment management.
- Representation in public grievance committee at grass root level is not required for better quality management.

Research Design

The study is based on the primary data collected from general public, politicians and educationist. The collected data are arranged through classification and tabulation. The collected data is tested with the help of chi square test.

Style for Effective Environment Management

“Success of an environment project depends on the style adopted by managers. A good management style is necessary for the success of an environmental programme.” 5 Opinion has been sought regarding the required style for effective environmental management as indicated in the table. 45.47% aggregate opinion has been assigned to the democratic management style in which all the decisions are taken in a democratic way. Opinion should be taken from all concerning groups of planning, implementation and control system. All the concerning groups should be free to give their opinion for better execution of the projects. 23.90% aggregate weightage has been assigned to the supervisory management style in which opinions are taken from all concerning groups but decisions are taken by the controlling authority. Projects are completed on the basis of orders given by the supervisory authority.

Opinion Regarding Style Required for Effective Environment Management

Information	Total Score	Score Achieved	Score Achieved in % Age	Classification		
				Age Wise		
				<25	26-60	>60
Autocratic management style	2400	812	18.53	332	288	192
Democratic management style	2400	1992	45.47	812	790	390
Supervisory management style	2400	1047	23.90	391	261	235
Laissez fair management style	2400	530	12.10	202	194	134
Total		4381	100.00	1737	1533	951

18.53% aggregate weightage has been assigned to the autocratic management style in which opinions are not taken from any groups but only orders of higher authority are executed without any feedback. 12.10% aggregate weightage has been given to the *laissez faire* management style in which systems are worked without any planning policy and control. It can be concluded that the democratic management style is the best management style for effective environment management because it encourages people’s participation, and helps to improve environmental awareness and education. Corrective measures are taken through the feedback from the general public and social organizations. To test the significance of data, 2 test has been applied as under:

Table Sowing Chi-square Test

Observed Data (O)	Expected Data (E)	O-E	(O-E)²	(O-E)²/E
812	1095.25	(-)283.25	80230.5625	73.25
1992	1095.25	896.75	804160.5625	734.23
1047	1095.25	(-)48.25	2328.0625	2.13
530	1095.25	(-)565.25	319507.5625	291.72
4381	4381			2 = 1101.33

Table value of 2 for 3 degree of freedom at 5% level of significance is 9.49. Calculated value of 2 is 1101.33 which is much higher than the table value. Hence, null hypothesis is rejected and alternative hypothesis is accepted. There are significant differences among the opinions of different styles and the democratic management style is the effective management style for successful environment management.

There is a need of public management style in environmental area. Opinion has been taken regarding the representation on the public grievance committee or local environment committee at ground level as indicated in the table given below:

Opinion Regarding Representation in Public Grievance Committee at Ground Level

Information	Total Score	Score Achieved	Score Achieved In % Age	Classification		
				AGE WISE		
				<25	26-60	>60
Representatives of Govt & NGO's	600	128	18.29	29	47	52
Representatives of local community	600	515	73.57	314	146	55
Environmentalists	600	38	5.43	16	13	9
Representatives of funding agencies	600	19	2.71	6	5	8
Total		700	100.00	365	211	124

73.53% opinion indicates that there should be representatives of local community in the public grievance committee at ground level because local social workers have knowledge about their requirements and their constraints. 7.95% aggregate weightage has been assigned to the representatives of Government and the representatives of NGO's working in that area. The representatives of funding agencies and environmentalists should be included in the proposed public grievance committee. The committee should be approved by the Gram Sabha at the village level and ward sabha at the urban level. The approved proposal should be sent to the Government and funding agency for the final approval. The public grievance committee at ground level will be proved as the foundation stone for the success of the democratic management style in the environment area.

Conclusion

Democratic management style is the best management style for effective environment management because it encourages people's participation, and helps to improve environmental awareness and education. Government organizations and NGO's should adopt democratic management style to improve quality of environment projects. Representation of grass root level is required in grievance committee of environmental projects.

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