International Journal of Commerce and Economics
www.commercejournal.in
Online ISSN: 2664-7540, Print ISSN: 2664-7532
Received: 10-12-2023, Accepted: 26-12-2023, Published: 11-01-2024
Volume 6, Issue 1, 2024, Page No. 1-3

Quality improvement and cost reduction through effective quality circles

Amarkant Paswan
Junior Research Fellow, Department of Commerce and Business Administration, Lalit Narayan Mithila University, Darbhanga, Bihar, India

Abstract
In order to improve quality and remain competitive in the global economy, firms must adopt the right improvement tools, techniques and methodologies. One of the most publicised aspects of the Japanese approach to quality management is the idea of Quality Circles. A Quality Circle is a group of workers who do similar work and who meet voluntarily, regularly in normal working time to identify, analyse and solve work-related problems as well as to recommend solutions to management.

Keywords: Cost reduction, operative personnel, organizational objectives, quality circles, quality improvement

Introduction

During the industrial revolution, manufacturers or the craftsmen checked the quality of their products personally. No outside agencies or quality control methods were employed to inspect and control the quality of goods. During the 1st World War, the need for manufacturing weapons in large quantities arose and with that arose the need for an effective control system over the quality of goods/weapons. Further, with increase in industrial trade and outbreak of World War II, the number of industries producing military and non-military goods increased at a very fast pace and the word 'Quality' became a matter of concern for both military and industrial organisations. This was to keep the firms competitive in the national and global trade markets.

As a result of globalisation, firms who wish to retain their share in the world markets in quality and reliability must maintain quality of their goods and services. The term 'quality' has thus, taken a form of quality revolution which each firm today is striving to aim at and if not, should aim at.

Quality: Conformance to Requirements

The word 'quality' has different meaning for different people. Quality implies a person's state of mind and is associated with the following perceptions:

- A good product
- Sturdy
- Durable
- Easy to operate
- Good in appearance, etc.

When associated with the product, these features define quality in a broader sense that means a product that

- Satisfies customers' wants and desires
- Observes the terms of delivery
- Has good documentation
- Is available at reasonable price, and
- Meets all specifications with respect to standards of the product quality.

The meaning of the term 'quality' is degree of excellence, relative nature or kind or character. Quality means "Products that are manufactured exactly to specifications". It also refers to "Products and services that totally satisfy our customer needs and expectation in every respect on a continuous basis".

ISO 9000 defines quality as the totally of features and characteristics of a product and service that bears on its ability to meet stated or implied needs.

Factors Affecting Quality

The following factors affect quality:

Markets: Markets are expanding and consumers demand qualitative products to satisfy their need of belongingness about the product. As markets are broadening in scope, manufacturers have to increasingly concentrate on quality of goods to survive in the expanding markets.

Money: With increase in competition, firms' profit margins are reducing and, therefore, they have to concentrate on minimizing the quality costs. Cost savings due to quality improvement have to be focused upon so that firms can improve their profit margins.

Men: With increasing size, complexities and specialization of business operations, there is need to appoint workers with specialized knowledge who can produce quality goods so that firms can compete in the competitive environment of vast knowledge and specialization.

Materials: To cope with high cost of production, business organisations search for alternate materials which will keep the overall cost of materials low in consonance with high quality of goods and services.

Machines: Maintaining existing machines and looking for new machines which will help manufacturers reduce their cost of production also add to the quality of products.

Management: Quality should not confine to the product alone. Designing the product, transformation process that will produce the product, marketing the product, providing after-sales service are all essential features of quality management which require active support of top management in allocating responsibilities so that product quality can be maintained.

Motivation: The greatest force that can contribute to quality of the product is the work force. Workers should be motivated through education and incentives to contribute their best to the product quality.

Management Information System: The information systems through application of computer-oriented tools and techniques also contribute to quality of the products by making right information accessible at the time and right place.

Importance of Quality Control

Quality control is the traditional way that businesses used to manage quality. Quality control means checking and reviewing the work that has been done. But, is this the best way for a business to manage quality?

Under traditional quality control, inspection of products and services (checking to make sure what's being produced is meeting the required standard) takes place during and at the end of the operations process.

1. When raw materials are received prior to entering production
2. While products are going through the production process
3. When products are finished-inspection or testing takes place before products are dispatched to customers.

Quality control has the following objectives:

- To establish quality standards for the product and the process which are capable of being achieved.
- To lay down standards of measurement which will facilitate manufacture of products.
- To maintain records that will facilitate measurement of performance at various stages of production process.
- To analyse the performance to detect and correct deviations beyond the acceptable range of errors.
- To find causes of deviation to avoid their recurrence.
- To obtain feedback for correction and improvement of the products and production processes.

Quality control, which is no longer viewed as mere inspection of products has become an integral part of every company's overall production strategy. It is being increasingly practised by managers at each level in every business organisation. Its importance underlies in the following benefits:

- It helps in detecting errors prior to production of outputs. It, therefore, smoothens the efficiency of the production processes.
- It helps in promoting quality efforts that encourage joint participation of workers and management across all levels and functional areas.
- It promotes quality and productivity. Improved quality leads to low inspection costs, less repairs, less scrap and, therefore, low cost of production.
- Lower costs would improve sales and create greater customer loyalty by providing consistency and reliability in the products.
- It matches customers' actual experience with the goods and services against their requirement for the product.
- It provides continuous improvement in the products/processes and provides opportunities for achieving new and higher targets.
- It coordinates activities of all the departments and promotes communication amongst them.
- Ti improves employees' motivation and morale to contribute to organisational output to the best of their abilities by resorting to ways as 'quality circles'.
- It helps in improving company's image in the national and international markets and society at large.

Effective Quality Control

Quality control can be made effective through the following measures:

- **Define quality control being sought in terms of company's objectives:** Quality control should aim at achieving not only quality products but the overall objectives of the organisation.

- **Cooperation amongst manufacturing and operative personnel:** High level of cooperation amongst those who are manufacturing and those assure quality of the manufactured goods can improve quality control.

- **Cost of quality reporting:** Quality control reports must be stated in terms of quality costs, return on investment and causes of deviations in actual quality in comparison with the planned quality.

- **Search for potential sources of difficulties:** Quality control manager should search for potential sources of deviations and areas where deviations have occurred and find out reasons for the same.

- **Conduct a pilot or an experiment run:** For a new product, firms must conduct a trial run or a pilot run under normal manufacturing operations to be sure of the quality of the products when the actual manufacturing processes are put into action.

Quality Circles –An Approach to Improve Quality and Reduce the Cost

The concept of quality control which originated in the U.S. was taken to Japan by W. Edwards Deming who marked the beginning of a revolution in quality control in Japan. As the awareness of quality control increased in Japan, the Japanese companies used statistical quality control successfully to motivate their workers to produce high-quality products. One of the mechanisms used by these companies to improve the quality not only of their products but also their personnel was quality circles which is in practice even today.

Quality circle is a group of labour and management personnel who belong to a single department, do same or similar work, meet periodically to discuss manufacturing problems (for about an hour per week in paid time), analyse them and find solutions to quality problems.

Rather than developing technical staff that functions through cooperation of management and workers, the concept of quality circles trains the workers who can themselves identify and solve the problems they face during the production process. Quality circle is "an approach to improving quality and reducing the cost of producing a product or service by the voluntary efforts of small groups of workers, who are generally led by a first-line supervisor". However, the supervisor does not issue orders. The circle

members themselves analyse their problem, gather the relevant information, find solutions and implement them. The QC members do not received monetary rewards or pay for making presentations to management of proposed solutions but receive recognition for their services to the organisation. QCs improve the quality of products and the work atmosphere as the members feel they are an important part of the organisation who can positively contribute to product quality. Through initially started in the manufacturing area, the concept of QCs widely applies in the services sector also.

Quality circles are regular short meeting set up to aid work-related problems.

- 5-10 people attend the meeting in work time
- Supervisor is nominated and he runs the meeting
- Flip charts, audiovisual equipment, notice boards etc. are utilised
- Problem areas are put forward by the group
- Problems are prioritized
- Information is collected, ideas are generated via brainstorming and force-field analysis.
- Effectiveness, costs, savings, consequences to other departments etc. are considered.
- Final solution is put forward to manager and implemented by the quality circle group.

Objective of Quality Circles

Following are the objectives of Quality Circles:

1. To improve the quality of products.
2. To improve productivity of the firm.
3. To develop sense of confidence in the workers that they can solve their problems.
4. To improve employees' job satisfaction.
5. To develop the personality of employees by making them aware of their importance in the work related areas and work atmosphere.
6. To improve interpersonal relationship between management and workers.
7. To improve employees' motivation and communication within the organisation.

Benefits of Quality Circles

Quality circles offer the following benefits:

- They focus on improvement of products' quality in a planned way.
- They train employees to identify their problems on their own and find and implement solutions to them without seeking the advice of technical experts.
- They satisfy members' higher-order needs of recognition and self-actualisation.
- They improve members' participation in the work-related organisational problems and, thus, enhance their job satisfaction.
- They promote productivity, efficiency, cost reduction, design testing and safety of the products.
- Since teaching is done in an informal way, employees do not feel burdened with analysing and solving their problems. Rather, they feel motivated to offer suggestions to management.

Effective Quality Circles

Quality circles will be effective in achieving their goals if they are framed with the following factors in mind:

1. They should start with the analysis of small problems and gradually move to bigger problems.
2. Members' participation in QCs should be voluntary and not mandatory to get their maximum support.
3. Members of the QCs should be taught the basic techniques of problem solving in an informal way.
4. Before members proposal to solve the problem is put to implementation, it must be checked by the supervisors.
5. Management should support QC activities rather than leaving them totally to the employees.
6. Members must be give recognition for their contribution to organisational problems.

Summing-up

Finally, we may conclude that marketers had to carry out their work properly and define the customers' specifications. Parameters for quality should include not only the material but operating, environmental, safety, reliability and maintainability requirement also. The philosophy of quality assurance need to be achieved and here lies the role of a quality circle. Evidence of successful Quality Circles suggests that there are no formal rules about how to organize them. However, the following guidelines are often suggested:

- The circle should not get too large. Otherwise it becomes difficult for some circle team members to contribute effectively.
- Meeting should be held away from the work area-so that team members are free from distraction.
- The length and frequency of quality circle meeting will vary-but when a new circle is formed, it is advised to meet for about one hour, once per week. Thereafter, the nature of the quality problems to be solved should determine how often the circle needs to meet.
- Quality circles should make sure that each meeting has a clear agenda and objective.
- The circle should not be afraid to call on outside or expert help, if needed.

References

1. Agrawal ML. Japanese Quality Circle: An Indian Experience, Modern Management, Vol. VIII, Nos., February 1991-January 1992:2(4):4-6.
2. Barik, Prashant Kumar (2023), Handbook of Quality Circle, Notion Press, Chennai.
3. Barry Thomas J. Quality Circles: Proceed with Caution, American Society for Quality, USA, 1988.
4. Bedi, Kanishka, Quality Management, Oxford University Press, New Delhi, 2006.
5. Chakraborty S. Quality Circles Failure in Indian Industries, Indian Management,1991:3(3):35-40.
6. Gitlow, Howard *et al*. Quality Management, McGraw Hill, New York, 2009.
7. Lamash S. Growth through Participation: Quality Circle Way, Gyan Books Pvt. Ltd., New Delhi, 2006.
8. Sharma Jayant. Excellence through Quality Circle, RBSA Publishers, Jaipur, 1998.
9. Srivastava, Naman and Jain, Ankit Kumar. A Review of Quality Circle on Indian Manufacturing Industries to Improve Performance Improvement, International Research Journal of Engineering and Technology,2020:7(10):760-765.