10

CONTROLLING AND TOTAL QUALITY MANAGEMENT

LEARNING OBJECTIVES

After comprehensive study of this chapter, you will be able to:

- get the meaning of control systems,
- know the process of control systems,
- be familiar with different types of control systems,
- explain the characteristics of effective control system,
- scan the potential barriers to successful controlling,
- get the meaning of quality and quality control system,
- describe the concept of total quality management (TQM),
- know different tools for total quality management,
- get the meaning of Deming Management,
- explain the various principles of Deming Management,
- know techniques of Deming Management,
- know the quality improvement process.

CONCEPT OF CONTROL AND CONTROL SYSTEM

Control is a basic but crucial function of management. It is the corrective action of management in pursuit of achieving the organizational goals. It is the process of setting standard outputs, evaluating the actual outputs, finding deviations in actual and standard output and taking corrective actions to attain the standards. Control is essential to ensure that the actual performance is in the way to attain planned result. If there are any deviations between planned output and actual work progress, corrective actions should be taken to track on right path. It is also a sub-system of management system. To ensure that things are going as they should, management monitors the organization's performance and takes corrective actions if necessary.

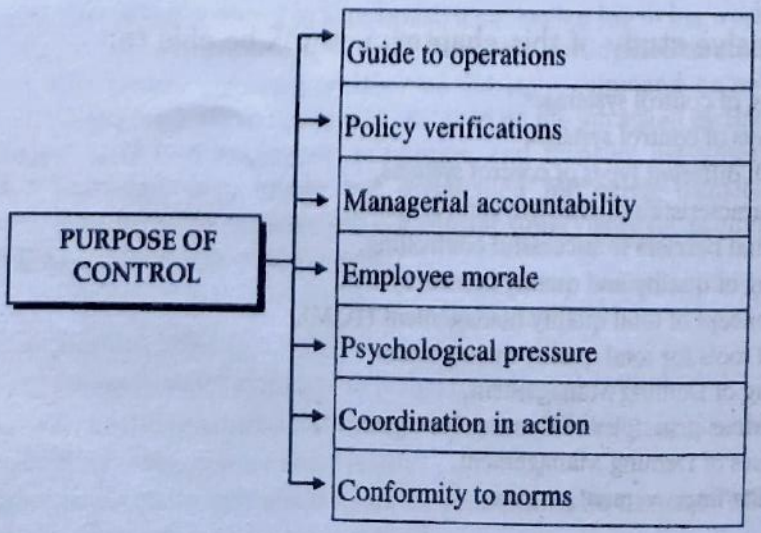
> **R. W. Griffin :** "Control is the regulation of the organizational activities so that some targeted elements of performance remain within acceptable limits."
> **Ivancevich, Donelly and Gibson:** "Controlling consists of actions and decisions manager undertake to ensure that actual result are consistent with desired results."
> **Decenzo and Robbins :** "Controlling is the process of monitoring activities to ensure that they are being accomplished as planned and of correcting any significant deviations."
> **George R. Terry:** "Controlling is determining what is being accomplished, that is, evaluating the performance and if necessary, applying corrective measures so that performance takes place according to plan."
> **Theo Haimann:** "Control is the process of checking to determine whether or not plans are being adhered to, whether or not progress is being made towards the objectives and goals and acting if necessary, to correct deviation."

By analyzing the definition listed above, we can say that controlling is the management function for measuring and correcting activities of various departments, units and individual in the organization to achieve the goals. It concerns in optimal use of organizational resources to ensure that events conform the objectives. Controlling is formulating the ways and means of assuring that planned performances are actually achieved. Through the controlling function, management keeps the organizational activities in right track.

For our purpose, controlling is the process of setting standard for output, measuring actual output, finding deviation, if any, and initiating the corrective actions to minimize and eliminate the deviation between predetermined output and actual output. It is the only management function which ensures that the activities are at the right track to attain organizational goals. The system of regular control to ensure the optimal utilization of resources to attain organizational objective is the control system. It consists of set of plans, procedures and principles for keeping the organizational activities in the way to achieve standard objectives.

PURPOSE OF CONTROLLING SYSTEM

Control is an indispensable function of management. Without control function, the management process is incomplete. It helps to judge the accuracy of the standards. An appropriate control system offers the following benefits in organization:

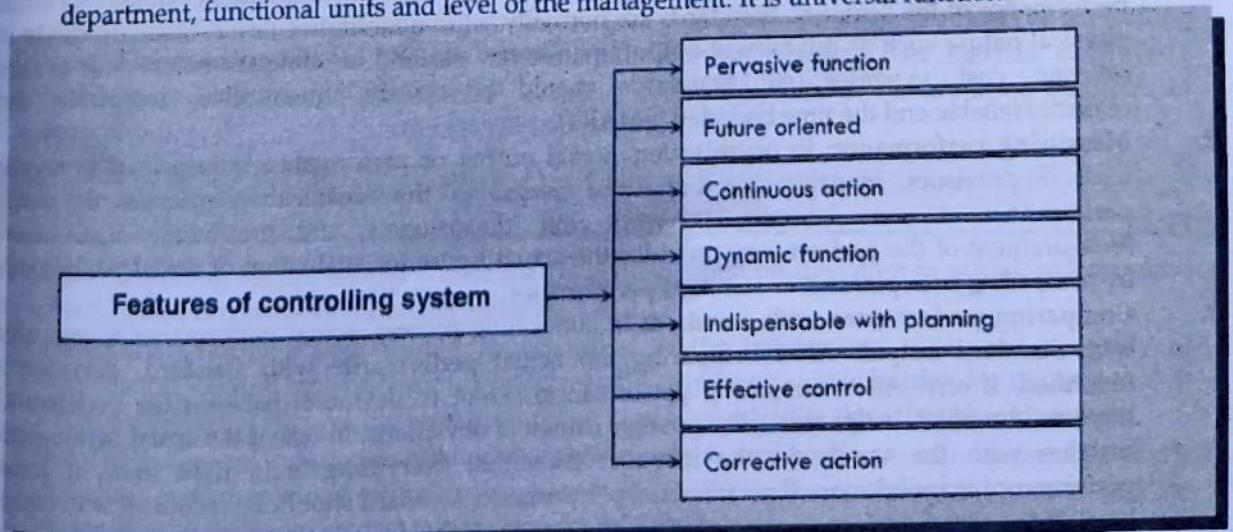


1. **Guide to operations:** Control guides the organization and keeps it on the right track. It measures progress towards the goals and brings to light the adjustments, if any, required in day- to- day operations. A sound control system measures the progress and indicates the corrective actions.
2. **Policy verifications:** Control enables management to verify the quality of various plans. It may reveal that plans need to be redrawn or goals need to be modified. Control helps the feedback in control system and serves as the tool to verify plans and policies.
3. **Managerial accountability:** Delegation of authority is a normal process in management. A manager has to ensure that his delegated authorities have been well utilized. So control enables managers to discharge their responsibilities.
4. **Employee morale:** Control creates an atmosphere of order and discipline in the organization. As a result, the subordinates feel that they have been treated fairly and their performances are rightly observed. This helps to boost up the employee morale.
5. **Psychological pressure:** Proper control system inspires employees to work hard and give better performance. As they are informed that their performance is being judged and their rewards are linked to such appraisal, they try to contribute their best efforts.
6. **Coordination in action:** Control helps to maintain equilibrium between ends and means. It is because of an appropriate controlling system, there is better inter-relationship between planning and direction. Hence, co-ordination is maintained.
7. **Conformity to norms:** Planning sets the standard of norms in terms of quantity, quality, cost and time. But, a good control system only assures that all these norms are well confirmed and being achieved accordingly.

FEATURES OF CONTROLLING SYSTEM

Controlling system is set of planned activities to ensure the organizational activities in the way of achieving predetermined goals. It is the basis management function to ensure the optimal use of organizational resources. Organizational controlling system possesses the following important features:

- **Pervasive function:** Controlling is the pervasive function of management. It is essential in all the organization irrespective of size, nature, and location. Controlling system must be effective at every department, functional units and level of the management. It is universal function.

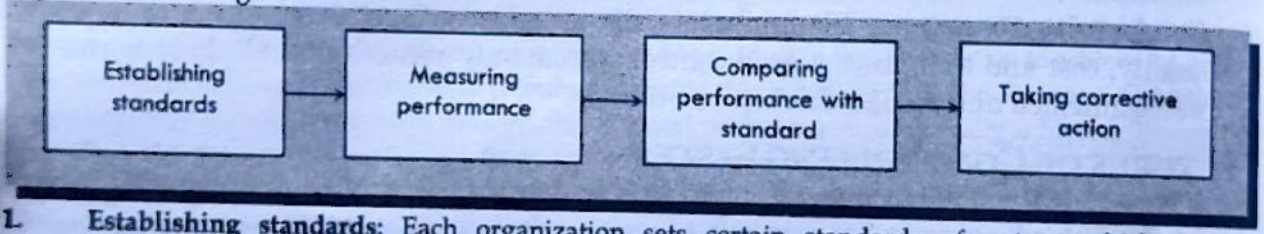


- **Future oriented:** Controlling is future oriented function as the purpose of controlling is to correct the future actions of organization. Based on past and present performance level feedback, required corrective actions are identified to future action.

- **Continuous action:** Controlling is continuous action as it is essential till the existence of any organization. Controlling actions once set may not be effective for next problem and time. As most part of the controlling system needs to focus on behavioral dimensions, so it must be in regular basis. It must be continuous as the nature of jobs in the organization along with the employees may be changed after achieving on time set standard.
- **Dynamic function:** Controlling is a dynamic function as the set of corrective actions set once cannot be fit always. Controlling system should be flexible to change, add or remove in the current system. There should be provision of making controlling more actively or loosen it as per internal as well as external environmental factors.
- **Indispensable with planning:** Controlling system is directly related to planning function of the organization. Feedback of post control is used to plan the future business activities. Controlling system is developed parallel with the planning. Along with the planning, controlling actions are determined. Thus, planning and controlling are two indispensable functions.
- **Corrective action:** Controlling system focuses on correcting the deviation between what is happening and what is expected to happen. Controlling system measures the actual functions and compares with expected i.e. standard functions. If there are any deviations between the standards and the actual performances, necessary corrective actions are identified and implemented.

PROCESS OF CONTROLLING

Controlling is a process in which series of activities are involved to ensure the organizational activities and directed towards attainment of predetermined objectives. The basic controlling process includes following steps as shown in figure.



1. **Establishing standards:** Each organization sets certain standards of output which are the determined goals of the project or department or the whole organization. Standards are the desired output of the organization. Controlling starts with setting desired output i.e. standard. In order to attain predetermined objectives, activities should be conducted with certain standards. Standards are the output criteria or basic level of expected output. On the basis of standards; actual performance is to be evaluated. So, standards are the basis of measurement and evaluation of actual performance of the activities. Standards are normally set in quantitative terms. Standard can be in physical nature such as quantity of output, man-hours, etc. and in monetary nature such as sales revenue, cost, expenses, etc. Standards should be specific, measurable, acceptable, and realistic/reliable and the time bounded (SMART).
2. **Measuring performance:** In organization, actual output or performance is measured in regular basis. Supervisors, managers or authorized person of the organization measure the actual performance of own subordinates, work unit, departments, and the whole organization. Measurement of the performance provides the actual figure for evaluation of actual performance by comparing with planned or standard performance.
3. **Comparing performance with standard:** In controlling process, actual performance is compared with standard output. After comparing the actual performance with standard, deviation is identified, if any. After comparing performance, extent of deviation between the performance levels is identified. It also traces the possible causes of deviations. In case if the actual performance matches with the standards; the manager feels that everything is in right track. If actual performance is found more than standard performance, standard should be redefined with higher level. If the actual performance is less than the standard; the deviation becomes negative and more serious. Managers become responsible to analyze the causes for deviations.
4. **Taking corrective actions:** Measurement and evaluation of performance, detection of deviations and deficiencies causing deviation are the fundamentals for the control. In such situation, managerial action should be focused in correcting the existing problems and weaknesses.

Corrective actions are more appropriate for the work in progress rather than the work completed. Corrective action calls for removal or adjustment of causative factors with the purpose of setting performance on the proper track. In some cases, however, corrective action is taken on the basis of predictions. On these bases of predictions, corrective actions may be taken as preventive measures. Corrective actions should be selected on the basis of the deviations. Training and development, review of strategy and policy, change in resources, behavioral training, group formulation and reformation of group are common approaches for corrective actions.

TYPES OF CONTROL SYSTEM

Controlling system consists of set of actions, guidelines, procedures and desired outputs of any individual, work unit, department and the organization. Controlling system ensures that the organization achieves predetermined goals preventing from deviation in actions. Control system should be regular, dynamic and consistent. It should be based on the time, nature and degree of the problems or causes of deviation. As controlling is continuous function, there can be different actions, steps and measures at different stages of organization. They are basically classified into three types on the basis of when they are applied. They are described below:

i. **Pre-control (Free forward control):** Initiating the controlling system before starting activities in advance is called pre-control. In simple words, pre-control is thinking before doing. For this, feedback of past performance or experience is used as the key information for control. Sometimes, input variables are immeasurable (e.g. the values an employee brings to the job) or are not detected at the feed forward point. In such situations, feedback is necessary in any continuous activities. Pre-control ensures there will be no deviations during the course of action. This helps to attain organizational goals even by using scarce resources optimally. Pre-control can also be called proactive control measure.

ii. **Concurrent control:** The control which goes along with the activities is called concurrent control. It is also known as real time control or side by side control. Under this control, activities being conducted are observed, analyzed and problems if any are identified and corrective actions are initiated immediately. It is concerned with the adjustment of performance before any major problem occurs. For example, the navigator of a ship adjusts its movements continuously or the car driver adjusts its steering continuously depending upon the direction of destination, obstacles, and other factors. In factory, inventory control, production control, quality control, control chart etc. are some examples of concurrent control.

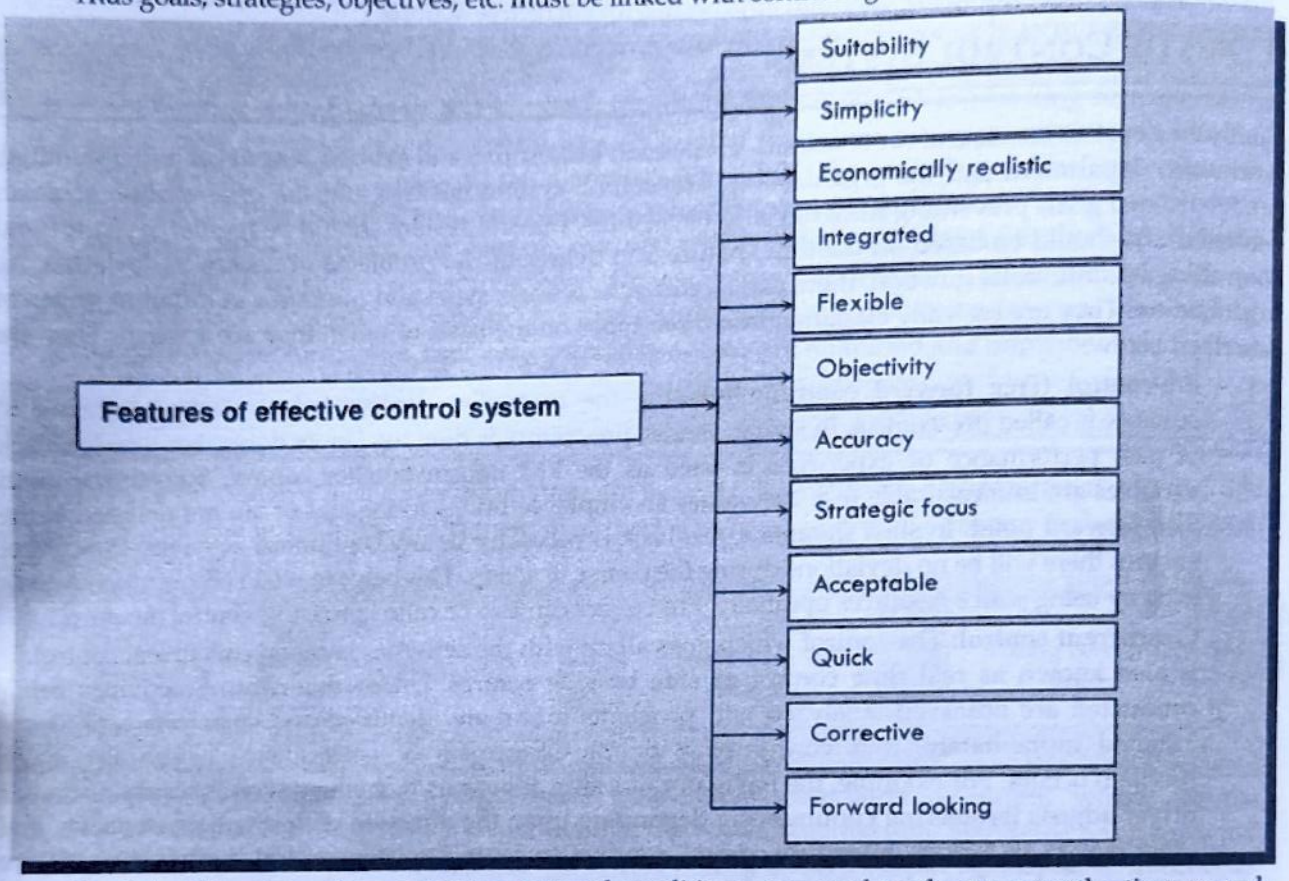
iii. **Post-control (Feedback control):** This is the control in which evaluation and initiation take place after completing the project. Main purpose of this control is to collect feedback of current performance for the future reference. On the basis of post-control, managers adjust the controlling system for future projects. Analysis of financial statement, standard cost analysis, employee's performance evaluation, quality control, customer satisfaction survey, etc. are some examples of post control.

CHARACTERISTICS OF EFFECTIVE CONTROL SYSTEM

An effective controlling system should ensure the timely correction on deviation in actual and standard performance. It should consists of following features:

1. **Suitability:** Control system should be according to the requirement, size, and necessity of organization. Control system designed unnecessarily may be economic burden for the long run. It must be suitable for jobs, for the level of employees, and according to the external environment.
2. **Simplicity:** Control system must be easily understandable and simple to administer. Too much elaborated and complicated control systems are found ineffective because they fail to communicate the meaning of their control data to persons who have to use them.
3. **Economically realistic:** The cost of implementing a control system should be less than or at most equal to the benefits derived from the control system. Too costly systems cannot be implemented regularly for the long time. Controlling system should not create financial burden to the organization.

4. **Integrated:** Control system must be linked with planning of the organization. Organizational goals i.e. targets are set during the planning stage. Hence, the targets i.e. standards of the control system should be linked with the organizational goals. Controlling measures should be more specific and realistic with organization structure, culture, and available resources. Standard performance and actual performance cannot be measured without integrating standard of controlling system with planning. Thus goals, strategies, objectives, etc. must be linked with controlling measures to make more effective.

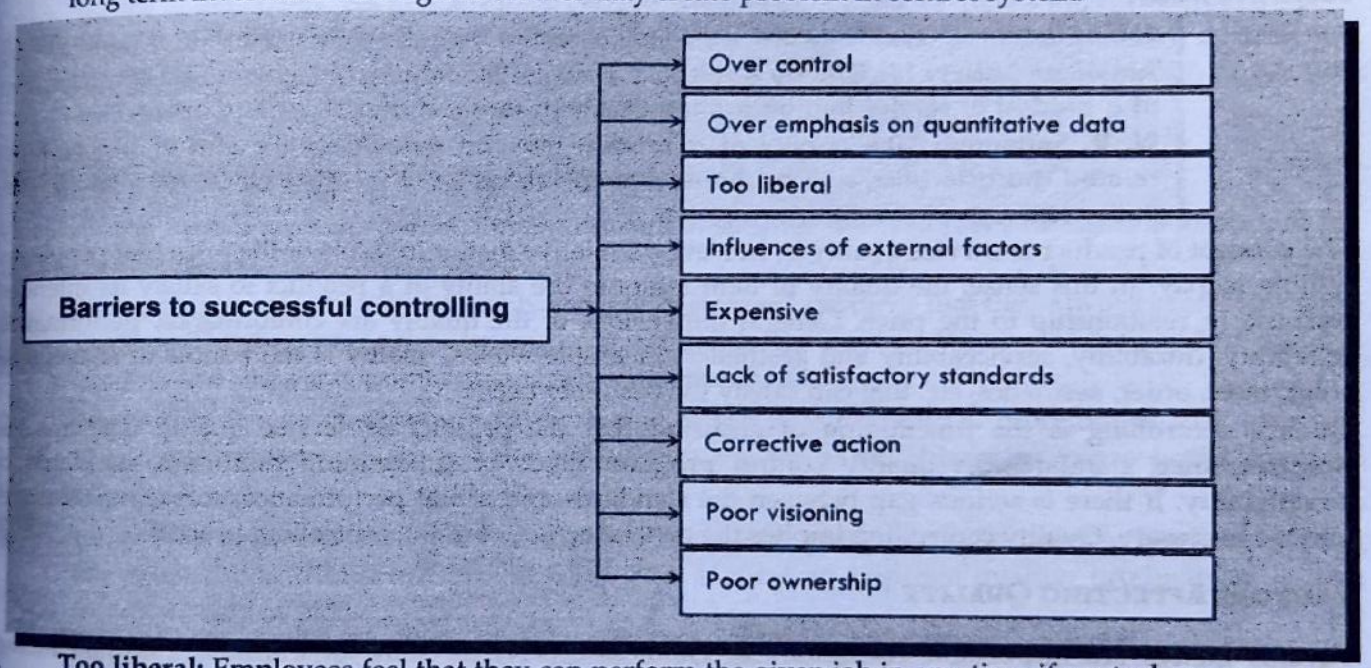


5. **Flexible:** Objectives, plans, activities, external conditions, etc. need to change over the time as such controlling system also needs to be adjusted accordingly. So, control system must be flexible to adapt the changed circumstances. Some provisions need to be changed, some need to be adjusted and new provisions need to be added. Otherwise, objectives of the control system cannot be attained.
6. **Objectivity:** As far as possible, standard performance and their measurement should be objective, verifiable, and specific. They should be based on facts and participation so that control is acceptable and workable. Vague and unclear control system cannot be effective.
7. **Accuracy:** Control is the function performed on the basis of feedback which serves as information to be provided in order to make the control system effective. The information gathered should be accurate and reliable for effective control.
8. **Strategic focus:** Control to be effective and efficient must be designed to point out exceptions. By concentrating on exception from planned performance, managers shall be able to pay attention to those places where their attention is required and should be given i.e. there must strategic focus on the specific area and control.
9. **Acceptable:** The control system should not be imposed to the employees rather it should be accepted by all. If it is acceptable then it is convenient in the implementation phase.
10. **Quick:** The aim of control is to see that actual performance conforms to be predetermined goals or standards. So, the best control system is one which reports deviation from the plan as quickly as possible.
11. **Corrective:** A good control system besides estimating the deviation and failure, should also point out where a deviation has occurred, what are the reasons for deviation and what corrective action should be taken. Main purpose of control is to correct the activities so that standard performance can surely be attained.
12. **Forward looking:** The control system should focus attention on providing early information regarding the changes which are likely to occur in the environment.

POTENTIAL BARRIERS TO SUCCESSFUL CONTROLLING

Controlling is an indispensable function as it is essential to all areas of management but it cannot be free from defects. A manager may face various problems while introducing and practicing the controlling system. Here are potential barriers to successful controlling in the organization:

1. **Over control:** If organizations try to control too many things, this becomes problematic to the employees. If control system affects employee's personal behavior and daily activities, that may be unacceptable to the employees. Employees perceive that control process limits their personal freedom unreasonably.
2. **Over emphasis on quantitative data:** The control system may be assumed too narrow if it gives focus on quantifiable variables and leave no rooms for analysis and interpretations. Employees resist the intent of the control system by focusing their efforts at the performance indicators being used. Over emphasis on quantitative data, desire of achieving short term goals on the expense of long term investment and rigid measures may create problem in control system.



3. **Too liberal:** Employees feel that they can perform the given job in any time if control measures are too liberal and flexible. In such situations, employees become careless and do not perform assignments properly. Poor quality standards result in costly waste and consumer dissatisfaction.
4. **Influences of external factors:** Control system may be effective itself but external factors such as government policy, technological changes, changes in fashion, etc. may have adverse effect. These factors cannot be checked by the control system in the organization.
5. **Expensive:** The performance of each and every person in the organization needs to be measured and reported to higher authorities. This requires a number of persons to be employed for this purpose. If the performance cannot be quantitatively measured then it will be observed by the superior. The control system involves huge expenditure on its exercise. This makes higher authority to be reluctant to introduce and continue the control system.
6. **Lack of satisfactory standards:** The performance of certain activities involving human behavior cannot be fixed in terms of quantities. It is difficult to fix standards for activities like public relation, research, etc. The evaluation of performance of employees engaged in such activities will be difficult. If the standards of evaluation become unsatisfactory, employees do not trust and follow them. This makes problems in control system.
7. **Poor visioning:** Mostly, organizational leaders or managers lack clear vision whether the controlling has long or short term vision. By definition, controlling as meeting standard and actual performance, focuses on short term vision. Short term vision, cannot lead to develop the controlling system. For controlling system, there must be long term vision and strategies in achieving it. For effective and successful controlling, there must be long term vision of the organization.

8. **Poor ownership:** Ownership in controlling is most essential. In general, employees think that the controlling system is solely based on managerial vision, action and wish. If they think that it is for the management's wish and accomplishment, controlling cannot be effective. Thus, management should be aware in developing ownership for over all people involved in the organization.

Sometimes, reward for inefficiency, lack of proper organizational design, lapses in reporting, negative attitude of the management, lack of proper information system, etc. also become problems for the control system.

QUALITY CONTROL SYSTEMS

Concept of quality

Quality is the distinguishing feature of any product that affects its ability to satisfy stated and implied needs of the consumers. It is the ultimate taste or feeling of organizational performance and excellence of products. The term quality is often felt to be something that cannot be explained in quantitative terms or defined precisely. It is perception of the people towards the goods or services. Therefore, quality is a subjective matter.

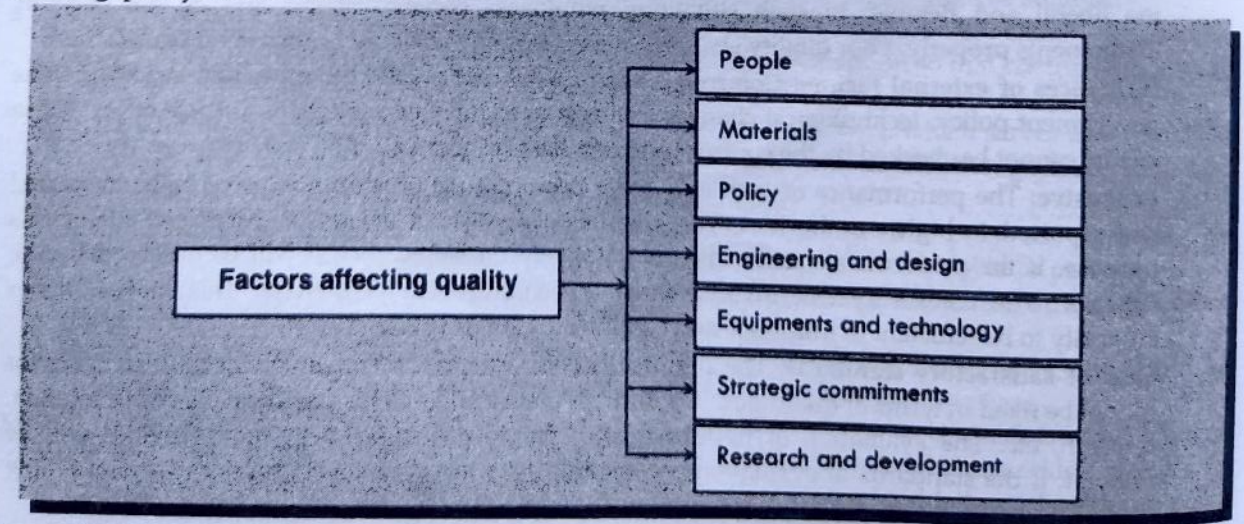
> **James Stoner :** "Quality means more than or better than average product at a good price."
> **American Society for Quality Control:** "Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs."
> **W. R. Spriengel:** "The quality of a product may be defined as the sum of a number of related characteristics, such as shape, dimensions, compositions, strength, workmanship, finish and color."

The concept of product or service quality is, however, a relative matter in terms of the price that people are willing to pay. In this sense, the quality of item refers to the ability of a product to satisfy its intended purpose in relationship to the price. General dimensions of the quality are conformance, performance, reliability, durability, serviceability and aesthetics. In simple words, quality is the bundle of shape, size, color, taste, order, aesthetics, etc. that can satisfy the customer needs.

Quality controlling is the functioning of ensuring that the product or service quality confirms the predetermined standards. A quality control program involves determining minimum standards of acceptability. If there is serious gap between the standards and actual performance, corrective measures may be necessary. Quality controlling implies the general activities of the controlling process.

FACTORS AFFECTING QUALITY

Various factors are responsible for quality of goods and services. Some of the most common factors affecting quality are discussed as below:



1. **People:** Except material, design, and equipments, employees are the vital contributor to quality. The employees are responsible to take the ingredients and process them into a final product or service of quality. Management must train employees not only in the specialized knowledge of producing and supplying quality product but in an attitude towards quality.

2. **Materials:** The finished product would be as per expectation only when good or quality materials are used to produce it. Therefore, management of an organization should establish standards of raw materials to prevent the entry of lower quality material for the production process.
3. **Policy:** Management establishes policies concerning product quality. These policies specify the standards or levels of quality to be achieved in a product or service. Thus, management policy regarding the quality largely determines the quality of product produced by the organization.
4. **Engineering and design:** The engineer or designer must create a product that will appeal to customers at a reasonable cost. Engineering and design are the basic factors to define shape, size, color, texture, etc. which make the product competitive.
5. **Equipments and technology:** Quality of equipments, tools, machines and technologies used in the production, promotion and the distribution process are vital determinants of quality. These elements determine the cost, quality and efficiency of the product.
6. **Strategic commitments:** Top management of organization should have strategic commitment for quality improvement. Top management should give proper priority in a maintaining and even improving quality of technology. For this, adequate budgets should be allocated for quality improvements.
7. **Research and development:** It is essential to satisfy the customer needs, fashions, desires and interest by providing quality of the product. For this, R&D in technology and even in goods and services is necessary to invent new and developed product.

IMPORTANCE OF QUALITY

Quality is the sum of basic attributes of the product that satisfies the customer's needs. It is important for the following reasons:

1. **Improving competitiveness:** Quality satisfies customers' needs so that they always prefer the same product. This helps beat the immense competition in the market. Because of the product quality, product sets different identity among the competitor products.
2. **Improving Image:** Quality reflects the image of the organization i.e. producer. If customers are satisfied once, they always put the producer at the top rank. This helps improve the image of organization.
3. **Improving productivity:** Quality is directly related with productivity. In order to improve quality, one must think to improve productivity. This is why, to improve quality, productivity is also improved side by side.
4. **Improving cost effectiveness:** By improving quality, wastage and defects can be reduced substantially. Resources can be properly utilized and hence the cost of production gets reduced.
5. **Improving the market position:** As the image of the organization is improved by improving quality, satisfying the needs of the customers, they always prefer the same producers as well as they recommend it to their peers and others. This helps increase the market.

QUALITY CONTROL (QC)

Quality control (QC) is a set of procedures intended to ensure a defined set of quality criteria to a manufactured product or performed service. It is the approach to meet the commitment a manufacturer or service provider makes with client or customer. Quality control (QC) is a process by which entities review the quality of all factors involved in production. Quality control is an independent audit of the quality of goods and services.

ISO 9000 defines quality control as *a part of quality management focused on fulfilling quality requirements*. ISO 9001 has suggested that QC approach should emphasize on three aspects (ISO 9001) :

- Elements such as controls, job management, defined and well managed processes, performance and integrity criteria, and identification of records
- Competence, such as knowledge, skills, experience, and qualifications
- Soft elements, such as personnel, integrity, confidence, organizational culture, motivation, team spirit, and quality relationships.

In order to implement an effective QC program, an organization must follow the following considerations in sequence:

a. Decide which specific standards the product or service must meet. Then the extent of QC actions must be determined for instance, what percentage of the finished goods at each level should be tested, what percentage of sample should be tested before accepting the delivery, etc.

b. Actual data must be collected, for example, the percentage of units that fails and the results reported to management personnel.

c. Corrective action must be decided upon and taken for example, defective units must be repaired or rejected and poor service repeated at no charge until the customer is satisfied. If too many unit failures or instances of poor service occur, a plan must be devised to improve the production or service process and then that plan must be put into action.

d. Finally, QC process should be made regular and made necessary improvements along with the improvements in production process, delivery process, service delivery process, etc.

QUALITY CONTROL SYSTEM

The system which consists of an understanding of analytical error; synthetic quality control (QC) material; a set of QC rules to examine whether the activities, goods and services are within the quality standard and, a process to follow if the standards are not met. It is the integrated system which ensures the minimum standard of the quality to assure, tools to get the standard and the techniques to improve the quality standard if they are not as per the set standards.

QUALITY MANAGEMENT

Quality management is the practice of drawing up plans that determine the standards that need to apply to the planning, manufacturing, product handling, delivering the product and follow up after sales of goods and services. It is the process of determining who would be involved in managing quality and their specific duties, meetings to determine the quality specifications laid out in the quality management plan and laying out the measures that are used to measure quality. Quality management is the comprehensive plan that includes all the components of the quality planning process. In conclusion, quality management typically produces as its deliverables a comprehensive quality management plan that includes the quality control aspect of it.

DIFFERENCE BETWEEN QUALITY MANAGEMENT AND QUALITY CONTROL

Quality Management	Quality Control
It is the philosophy that advocates the overall management to ensure control.	It is set of tools and techniques to measure the set of quality of product.
It is the process of planning and managing quality standards.	It is the measurement of quality matrices against set of quality standard.
It is done during initiating and planning phase	It is initiated during project monitoring and controlling functions
It takes into account the lower level details of how the output is to be tracked and measured.	It is the process of ensuring that the quality metrics are met.
It is basically done by top level management in assistance of level managers.	It is handled by different set of people who do the tracking and measuring of metrics in a dedicated manner.

TOTAL QUALITY MANAGEMENT (TQM)

Quality is an integral element of organizational functions. Quality has no single meaning for all people. It is the perception towards effectiveness and utility of any goods and services to satisfy the needs. As the expectation of the people may change continuously, the same level of quality cannot satisfy all the customers. So, the quality of the product must be improved continuously. It is believed that there is no

limited scope for quality improvement. In this ground, management should also focus its efforts for the gradual and continuous improvement of quality. This concept of gradual and continuous improvement in product quality is developed as a management philosophy which is known as total quality management. Thus, Total quality management is a management philosophy which believes in a company's wide responsibility towards gradual and continuous improvement of quality of product. The main aim of TQM is the active involvement of the production personnel in the pursuit of quality. TQM is a holistic approach to long-term success of organization through continuous improvement in all aspects of an organization as a process and not as a short-term goal. It aims to radically transform the organization through progressive changes in the attitudes, practices, structures, and systems.

> **Ricky W. Griffin:** "Total Quality Management is a Strategic commitment by top management to change its whole approach to business to make quality a guiding factor in everything it does."
> **Robbins and Coulter:** "Total Quality Management is a philosophy of management that is driven by customer needs and expectations and focuses on continual improvement in work process."
> **International Organization for Standardization (ISO):** TQM is a management approach for an organization, centered on quality, based on the participation of all its members and aiming at long term success through customers' satisfaction and benefits to all members of the organization and to society."

For our purpose, TQM refers to the strategic commitment of top level management for planning and implementing continuous improvement in quality of product to meet the requirements of customers. TQM is the progressive approach and philosophy which ensures the gradual and continuous improvement in product quality through changes in attitudes, practices, structure and systems. It focuses not only on the product quality but also for the improvement of quality of work life of all employees. TQM emphasizes the following things:

- meeting customer's requirement,
- continuous improvement in overall quality dimensions of the product through management process,
- involvement of the people in organization for formulation and implementation of quality improvement plans and policies.
- ensuring the organizational climate for change through plans, policies, strategies, structures and practices.

In this regard, TQM is creating an organizational culture committed to continuous improvement of skills, teamwork, process, product, and service quality and customer satisfaction. The Japanese technique *Keizen* i.e. step by step and gradual improvement for achieving higher standard can be an example of the process improvement. Quality circles, self-managed work teams, etc. are also essential for fulfilling objectives of TQM.

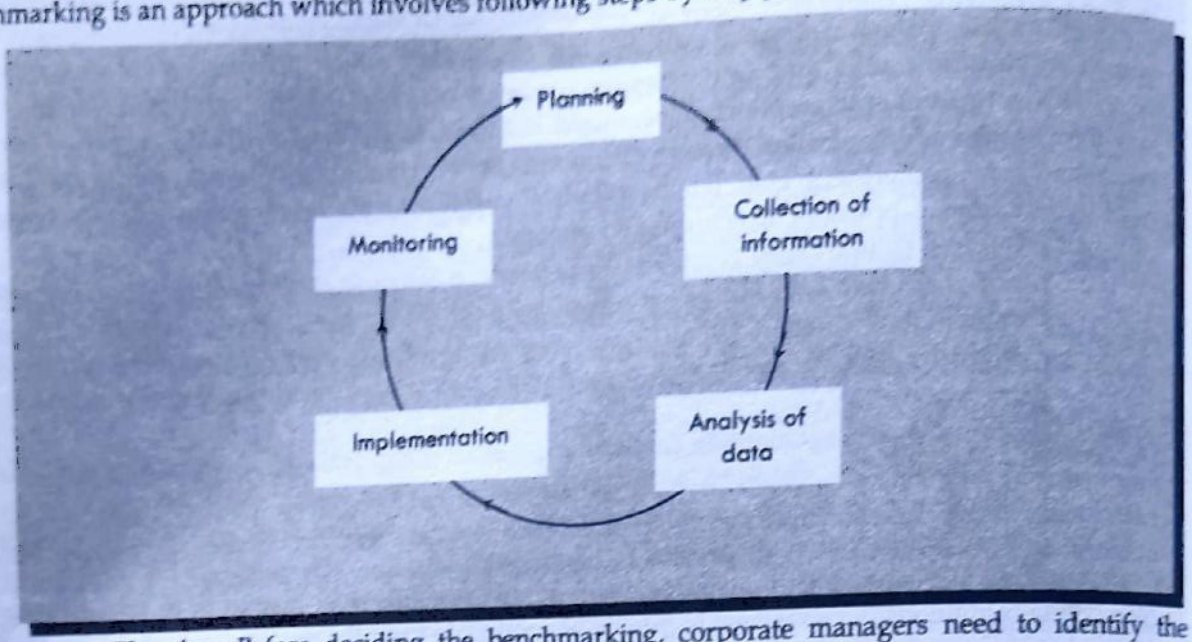
TECHNIQUES OF TQM

There are various tools and techniques for the implementation of total quality management (TQM). Some of the common tools are explained below:

1. **Benchmarking:** Benchmarking is a process of comparing organization's performance continuously with the best performing unit within the organization or company in the market and adopting the best ways to improve the quality as the comparing organization is doing. Such a comparison may be in terms of various dimensions as general practices, services, product design, business process and/or administrative processes. It can be done internally or externally. Internal benchmarking compares the performance of specific unit, department, process, employees, etc. with the best performer within the organization whereas external benchmarking is the comparison with best performer of industry or similar business. Benchmarking tries to recognize the need to change and determine what direction should be taken by observing those who have changed successfully. Benchmarking is successfully used as a process of introspection and search for the best practice in total quality management. Benchmarking is referred to as the process by which an organization measures their products, services, and practices against its most difficult competitors, or those organizations recognized as leaders in the same industry.

A. Step-by-Step Approach to Benchmarking

Benchmarking is an approach which involves following steps-by-step process. :



a. **Planning:** Before deciding the benchmarking, corporate managers need to identify the activities that need to be benchmarked. Benchmarking would demand a high cost, volume or value. For the optimal results of benchmarking to be reaped, the inputs and outputs need to be redefined; the activities chosen should be measurable and thereby easily comparable, and thus the benchmarking metrics needs to be arrived at. Managers need to conduct an honest appraisal of strengths, weaknesses and problem areas in the organization. The next step in the planning process would be choosing an organization or group of organizations against of which benchmark will be done.

b. **Collection of information:** Different data regarding the things to be benchmark need to collect after the proper planning. There can be primary as well as secondary data. For data collection, different methods like exploratory research, market research, quantitative research, informal conversations, interviews and questionnaires, etc. can be used.

c. **Analysis of data:** After collecting sufficient data, proper analysis of such information is of foremost importance. Data analysis, data presentation, results projection, classifying the performance gaps in processes, and identifying the root cause that leads to the creation of such gaps, etc. are followed sincerely.

d. **Implementation:** This is the vital stage in benchmarking. In this the stage, far-reaching changes are made, so that the performance gap between the standard and the actual performance is narrowed and eliminated. A formal action plan is formulated to promote changes in the organization. It is most important to keep the organization culture while planning and implementation, so the resistance to change could be minimized.

e. **Monitoring:** In order to reap the maximum benefits of the benchmarking process, a systematic evaluation should be carried out on a regular basis. For this, required information is assimilated, progress is evaluated, re-iteration of impact of the changes is made and any necessary adjustments are made.

2. **ISO 9000:** ISO stands for International Organization for Standardization which is international organization for setting quality standards for different products and awarding certificates of quality to those organizations which meet the standards. There are five standards ranging from 9000 to 9004 set by the ISO namely product testing, employee training, record keeping, supplier relation, and repair policy and procedure. ISO 14000 is applicable in the environment related quality issues.

The ISO 9000 family contains following standards:

- ISO 9001:2015: Quality management systems - Requirements

- ISO 9000:2015: Quality management systems- Fundamentals and vocabulary (definitions)
- ISO 9004:2009: Quality management systems – Managing for the sustained success of an organization (continuous improvement)
- ISO 19011:2011: Guidelines for auditing management systems

The ISO 9000:2000 revision had five goals:

- Meet stakeholder needs
- Be usable by all sizes of organizations
- Be usable by all sectors
- Be simple and clearly understood
- Connect quality management system to business processes

Organization by adopting ISO standards as its minimum quality standard can manage the quality.

3. **Outsourcing:** Outsourcing is the process of sub-contracting some of the subsidiary jobs, services and operations to other firms that can provide at cheaper rate and better quality. This system of outsourcing improves efficiency, reduces cost, enhances productivity, and improves quality. It helps top management to focus the attention only on core activities and strategic issues. Outsourcing of operations in sectors that could provide a competitive advantage to small, medium and large enterprises is a completely new method that has emerged in recent years. The need to develop information and communication technologies in order to increase performance within a competitive environment has led to the development of various IT and computer departments within firms.

4. **Speed:** Speed is the time required to the organization to get something accomplished. It can be emphasized in any area including developing, producing, promoting and distributing goods and services. The organization can get competitive advantages over others only when it is better, smarter, and faster than their competitors. Thus, speed of operation is one of the major aspects in managing total quality of products.

5. **Statistical Quality Control (SQC) :** SQC is a set of specific statistical techniques that can be used to monitor quality. This method extremely uses the sampling, probability and other statistical techniques to control the quality. It is also one of the major tools used for quality assurance.

Benefits of Statistical Quality Control

- It identifies the bottlenecks and trouble spots.
- It provides a means of detecting error at inspection.
- It leads to more uniform quality of production.
- It helps increase the customer satisfaction through uniform goods and services.
- SQC helps reduce inspection costs.
- It assists in reducing number of rejects and saves the cost of material.
- It promotes the understanding and appreciation of quality control.

6. **Just in time (JIT) :** JIT is the management philosophy that believes in the right product at the right or just in time of demand. JIT has two understandings as 1. customers cannot wait for the long time. So, they should get the product at the time of demand, 2. over inventory of the finished goods to serve the customers can increase the material handling and inventory cost. Thus, JIT is the technique that assures the material, man and machinery at the ready position at the optimal level so that inventory cost remains low and at the same time product delivery becomes effective. Just in Time (JIT) is pioneered by Toyota in the 1950s and adopted successfully all over the world. The philosophy demands eliminating waste and improving product quality to maximize returns on investment. The basic JIT principles are to make only what is needed, when needed, and in the amount needed.

7. **Right first time:** This philosophy aims for zero defects in production process and products. Employees ensure doing the right things first time. They are not supposed to do work at hit and trial basis. It states that better not to produce at all than produce something defective.

DEMING MANAGEMENT

Edwards Deming, a US citizen, is regarded as father of new industrial age. Deming management is application of his principle in the field of quality control. His approach is directed towards revitalizing the production system through making it more responsive to people, more democratic and more efficient. Deming approaches TQM from a philosophical angle and pronounced his points. He had developed a number of new quality improvement techniques and principles in USA which was transformed to Japanese organizations. He was primary contributor to Japanese quality improvement programs. According to Deming, top management has primary responsibility for achieving product quality and should give high attention.

Deming has suggested fourteen techniques to improve the quality of goods and services. To honor his contribution to management and substantial development in quality, the Japanese government instituted a Deming Prize.

The main features of the Deming management are as follows:

1. Top management has more responsibility for quality improvement.
2. Quality should be aimed at the needs of customer satisfaction. Customers always come first.
3. Quality can be improved by a fixed system. If mistakes are found, don't blame individual but study the process to prevent the defects.
4. Quality can be improved by the attention of all employees. There should be democratic environment to promote production and exploit the opportunities.
5. Plan-Do-Check-Act cycle is effective for continuous improvement of quality.
6. Motivation through group participation helps improve the quality. Remove the barriers of motivation and control.

PRINCIPLES AND TECHNIQUES OF DEMING MANAGEMENT

He advocates following fourteen points for quality improvement and management. These points are also known as the principles of the Deming Management:

1. **Constancy of purpose for improvement:** Management should have first priority to the quality improvement rather than profit. It must be consistent till the existence of organization. Profit will be increased if quality products are provided to the customers at consistent basis.

2. **Adopting new philosophy:** According to this principle, management should adopt new philosophy of survival and growth with quality. For it, all concerned people should be ready to adopt new technology and methods.

3. **Cease dependency on mass inspection:** According to Deming, once error occurs, then the efficiency and effectiveness get lost automatically. Inspection after producing large number of product cannot protect from being defective products. So, inspections should be started from the very beginning for every level of production.

4. **End the practice of awarding business on price tag alone:** Normally, purchasing department gives first priority to the suppliers who provide at the cheapest price. Cheapest products may be low in quality but not always. At the same time, expensive products may not always be quality products. So, product should not be judged by price tag. Rather, it is necessary to maintain healthy relationship with the suppliers who provide quality material.

5. **Seek continuous improvement:** According to Deming, there must be continuous effort to the improvement in process and methods to improve the quality of the product. Procedure or methodology set once cannot be always efficient. It is the responsibility of management to innovate alternative methods and methodologies to reduce waste and to improve quality.

6. **Institute modern method of training:** Training and development improves the efficiency of the employees. Modern methods of training on the job should be adopted while learning by observing should be reduced. On-the-Job method of training is to be initiated in this matter to improve the efficiency.

7. **Institute leadership:** Managers must be responsible to help their subordinate to accomplish their job. For it, they need to adopt and institute leadership to help workers to do a better job.

8. **Drive out fear:** It is most essential to remove the fear of the employees to express their ideas, views, opinions regarding the job. They must be encouraged to learn methods and methodology. They must feel secured to insure quality and productivity in workplace. If so, employees try for innovation of new ways of doing things.

9. **Break-down barriers between staff areas:** Team work is the only way to improve the quality at work. Joint effort becomes more effective to be more innovative and adoptive. So, feeling of team work must be encouraged. There should not be any barriers between departments and staff areas.

10. **Eliminate slogan and target:** Slogan and targets to the employees cannot improve the quality of the products rather it may reduce the efficiency and quality. Effective supervision and leadership, continuous improvement in system helps meet the target. So, by eliminating the slogan and targets effective supervision must be initiated.

11. **Eliminate numerical quotas:** This principle emphasizes to the quality rather than quantity of the product i.e. numerical quotas. Numerical quotas always trap employees to fulfill that quota at any cost. So, they may not pay due attention on quality improvement.

12. **Remove barriers to pride of workmanship:** Management should always focus to remove barriers which may occur during production and supply process. For this, there must be continuous improvement in management system. Inadequate instructions, defective equipments, etc. must be discouraged to use.

13. **Institute a vigorous program of education and training:** Skills and knowledge of employees should also be improved gradually to improve quality of the product and service. So, Deming suggests managers and staff should be enrolled to the education and training programs and packages regularly.

14. **Take action to attain the transformation:** Top level management should always make strategic plan in order to achieve the goal of quality improvement. Plan alone cannot be effective if it is not implemented properly at the predetermined time schedule. So, all the plans prepared for quality improvement should be implemented immediately.

DEMING PDCA CYCLE

In 1950 AD, W. Edwards Deming proposed that business process should be analyzed and measured to identify sources of variations that cause products to deviate from customer requirements. He suggested that production and supply processes should be placed in a continuous feedback chain or cycle so that managers can identify and change the required procurement for quality improvements. He suggested a cyclic diagram to illustrate this continuous process which is commonly known as the PDCA cycle. Here, PDCA stands for Plan, Do, Check, Act.

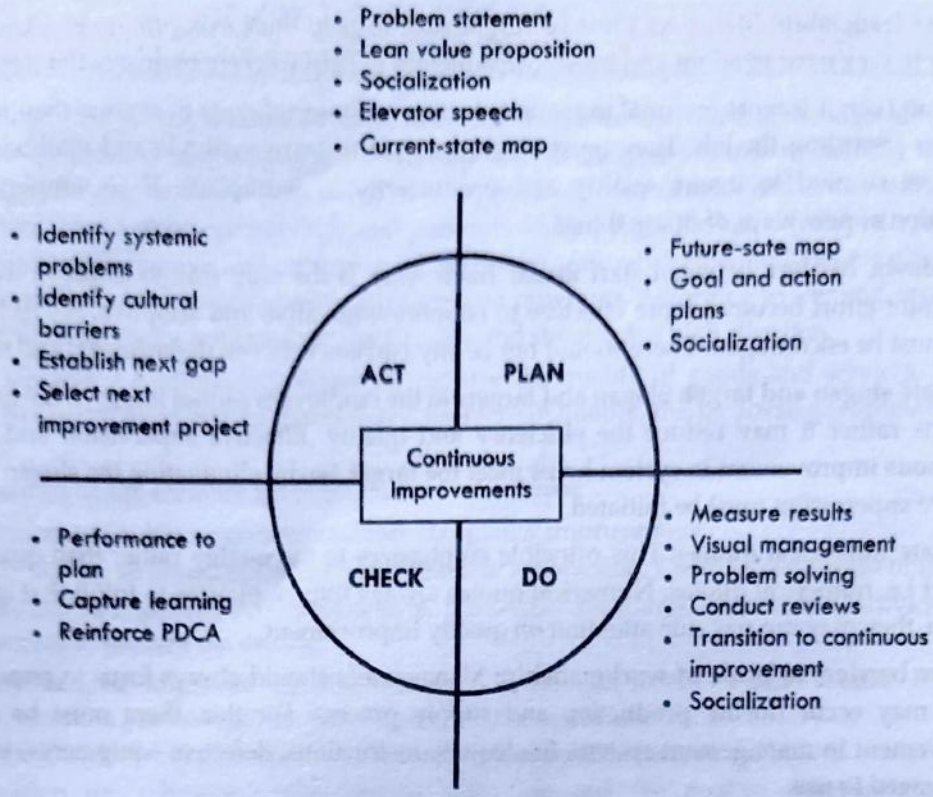
Plan-Do-Check-Act: Deming suggested a four-step process for the application of TQM which is popularly known as PDCA cycle as illustrated in the following figure:

i. **Plan:** Management must plan product development. For this, management should prepare planning objectives, policies, tools, customer needs priorities etc.

ii. **Do:** Management should produce the goods and services as the plan. If any problems are identified in planning, necessary correction should be made.

iii. **Check:** After the production is started, management should start checking to find any deviations if any. This phase is most important from the point view of finding deviations in production process and causes of deviations.

iv. **Act:** This step is for research and development of products and services. For this purpose, management should work for team building and work accordingly.



QUALITY IMPROVEMENT PROCESS

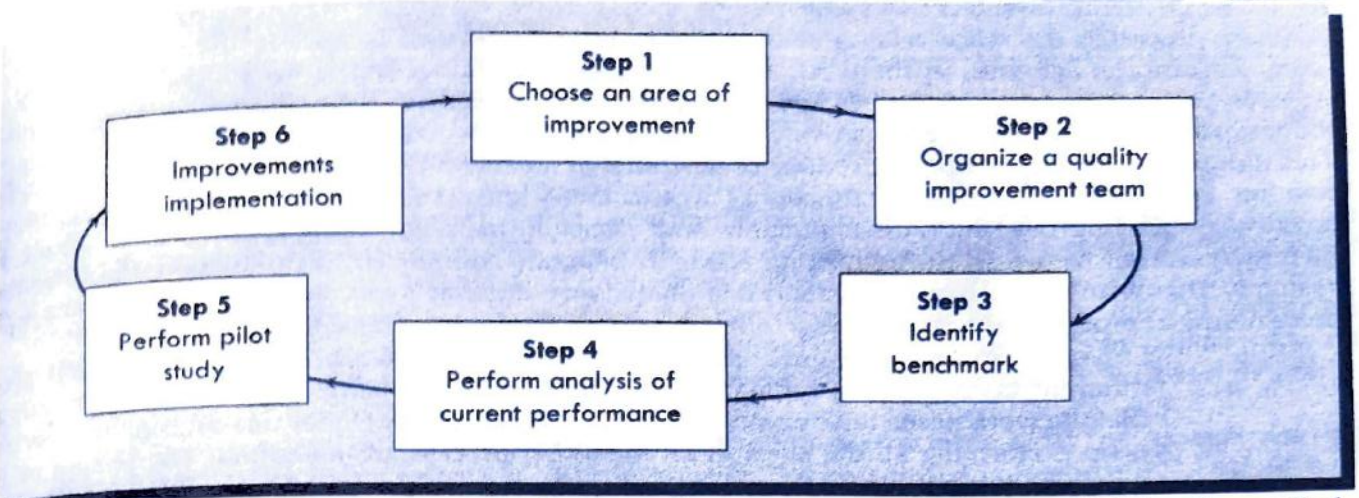
Two approaches are commonly used to improve the quality. The first approach was developed by Deming, Juran, Crosby and Feigenbaum which is known as incremental improvement and the second approach advocated by Michael Hammer is known as reengineering. To understand more about the improvement process, it is essential to collect information on differences between quality assurance and quality improvement. Following table makes clear distinction between them.

Quality Assurance	Quality Improvement
Individual focused	System focused
Perfection myth	Imperfection recognized
Solo practitioners	Teamwork based
Peer review ignored	Peer review valued
Errors punished	Errors seen as opportunities for learning

A. THE INCREMENTAL IMPROVEMENT PROCESS

Incremental improvement is an approach to process improvement in which organization focuses on the efforts on small but steady solutions that ascertain the improvements in organizational process and progress. These ideas are typically low-cost and low-risk, and are implemented by employees throughout the entire organization.

There are a large number of approaches for incremental improvement process for achieving excellent quality in products and processes. These approaches have some specific differences and few similarities. These similarities form the following stages in improvement processes.



1. **Choose an area of improvement:** At first, area for improvement is chosen which is often called 'theme'. Management team or improvement team chooses the improvement theme. There can be different areas for improvement as–
   - Reduction in production cycle time
   - Increase in the percentage of non-defective units produced
   - Reduction in the variability of raw material going into production
   - Increase in on-time deliveries
   - Reduction in machine downtime
   - Reduction in employee absenteeism
   - Reduction in delivery time
   - Reduction in consumer response time
2. **Organize a quality improvement team:** For quality improvement process, no single effort or effort of single person can work. There may be many hands to join together for effective implementation of quality improvement initiations. For this, a quality improvement team needs to be organized. In this team different members from different areas can be included but it is more important to understand that the members should have significant contribution on improvement process. The members of team might include:
   - One or more associates directly responsible for the work being done
   - One or more customers receiving the benefits of the work
   - One or more suppliers providing input into the work
   - A member of management
   - Perhaps one or more experts in areas particularly relevant to solving the problem and making the improvement.
3. **Identify benchmark:** Benchmarking is the process of setting the desired quality as minimum standard. For example, if a company wish to improve quality, it can set the industry quality or quality of any other company as minimum standard so that at any cost the company achieves that minimum level of quality. For instance, a commercial bank in Nepal has maintained 3 minutes of service delivery at the cash counter. Then, another banks sets the time (3 minutes) as maximum time to serve the customers. Similarly, if a restaurant has minimum 15 minutes of time for delivery after order placement. It can set 10 minutes as benchmarks from next month so that consumers get the order delivery within 10 minutes.
4. **Perform analysis of current performance:** In order to identify the current level of performance and to scale the problems in quality, it is now to analyze the current level performance. It helps to set policies and strategies to meet or beat the benchmark. For analysis, different factors like potential problems related to equipment, materials, work methods, people, and the environment, such as legal constraints, physical conditions, and weather. It helps to determine the action plan to meet the benchmark.
5. **Perform pilot study:** A pilot study, or pilot test is a small scale preliminary study conducted to evaluate feasibility, duration, cost, adverse events, and improve upon the study design prior to performance of a full-scale. Before applying the action plan in full-fledge, it is essential to test in small scale say with few people, or in small project, or market. Pilot survey helps to ensure the action plans developed for quality improvement works as per standard or need some amendments in action plans.
6. **Management implements the improvements:** After completing all the above steps, new management needs to implement the improvements. Along with the improvement, management needs to evaluate the improvement progress. Quality improvement team is more responsible for implementation, analysis and improvement of the entire process.

B. REENGINEERING IMPROVEMENTS

Business process is the set of related work activities to be performed to achieve the goals. It is the way what perform the activities in the work. Business process reengineering is the process of changing the ways to perform in order to achieve the effectiveness and efficiency. Reengineering makes the process more flexible, responsive and productive. Reengineering demands complete rethinking of operations. Through reengineering companies reduce organizational layers and eliminate unproductive activities in two key areas. First, they redesign functional organizations into cross-functional teams. Second, they use technology to improve data dissemination and decision making. Reengineering is different from incremental improvements. Reengineering needs to integrate computerized production and information systems. This is an expensive change, and one that is very difficult to accomplish piecemeal through an incremental approach. For reengineering, following principles are more essential.

- **Organize around outcomes, not tasks:** Traditionally, work has been organized around different tasks, such as typing, assembling, and supervising. But, reengineering suggests that the work needs to be organized in terms of outcomes. Under this concept, one person or team performing all the steps in an identified process are identified. The person or team would be responsible for the outcome of the total process.
- **Have complete functions who use the output of the process:** To excel the quality, dependency should be reduced. If the output is used by the department or process itself, it is better to own the complete process. For example, a production department may manage own purchasing and its own cost accounting. This emphasizes that the departments or units who use the output need to develop a broader range of expertise from individuals and teams, and a greater integration of activities.
- **Incorporate information-processing work into the real work :** Use of information technology helps to improve the reengineering of process to increase the quality. Latest technology helps to deliver quality service to the customers and at the same time it helps to maintain good records in the organization. For example, scanners at counters in grocery stores helps to decrease the waiting queue, decreases the chances of fraud, maintaining accounting and maintaining inventory records at the same time. This has changed the job processes.
- **Treat geographically dispersed resources as they were centralized:** This principle states that the centralized process could reduce the wastage, and loss. Thus, even for the geographically dispersed production center can make the centralized purchase decision. For example, Yummy Café, in Kathmandu runs eight canteens in different colleges, and one café in Balaju has set the central processing unit. The central processing unit purchases all the materials required to fulfil the demand of nine selling centers. It collects demands from each of nine selling centers and delivers them as semi-finished goods. This helps to increase the volume purchase discount, wastage in material handling and uniformity of quality. This principle violates the second principle thus managers need to identify whether the centralized processing helps to excel the quality or not.
- **Link parallel activities instead of integrating their results:** For producing and delivering goods and services, several processes are often required. In most of the situations, companies separate these processes so that the product comes together only at the final stage. It is better, to coordinate the various processes from the very beginning so that the problem of poor coordination could be lessen. Poor coordination in the processes may cause problem of high wastage, process overlapping or duplication.
- **Decentralize and build control into the process:** This principle states that the decision making authority should remain with the persons who work i.e. worker should have decision making authority. For example, salesperson should have the authority and responsibility to approve credit. This principle saves time and allows the organization to respond more effectively and efficiently to customer needs. Following this principle, there may reduce the control of management but the management should develop the system to control over the process. For the above example, the limit of credit can be fixed for different levels of credit and the system of approval need to be maintained. Similarly, commercial banks provide authority to the branch managers to decide the interest rate in deposit and lending but to control by the management, they can differ in interest rate by 0.5% only.
- **Capture information once and at the source:** For optimal quality improvement, there should be a data base system to scan, monitor, record, and store it. This helps analyze the quality improvement process, identifying the problem areas and getting quick excess for quality improvement process. Computerized online databases help make this principle achievable.

EMERGING ISSUES IN QUALITY MANAGEMENT

Quality management refers to the continuous improvement in quality of product and service in order to satisfy customer's requirement. It is the way of thinking for better quality in the near future and aims that will be better in the days to come. In the competitive business world, every organization should care on quality of the product. In this concern, there are various issues emerged. Some of them are discussed below:

1. **Innovation and change:** Change in behavior, attitude, taste, needs and expectation of customers are changing rapidly. Same product with same design and taste cannot fulfill changing expectation of customers. In order to satisfy their needs innovation and change are most essential.
2. **Motivation of employees:** If employees are satisfied, they commit to devote their effort for the organization as they are internal customers of organization. So, satisfied employees affect in the quality of product and service. To satisfy employees, managers should focus their efforts to motivate employees which help to improve the quality.
3. **Reengineering organization structure:** Tall organizational structures delay in supervision and control which directly or indirectly affect in quality. So, organization structure is required to be flattened as far as possible. It helps to improve the quality by fostering instruction and control.
4. **Work force diversity:** Another emerging issue in quality management is to use diversified work force in improving quality. Nowadays, organizations are compelled to use different types of diversification in terms age, gender, geography, socio-economic background, etc. as the consequence of globalization.
5. **Knowledge management:** Only the knowledge is most powerful in this competitive business world. To be creative for new ideas, new methodology and product, organization must use knowledge. In organization, irrespective to age or gender or any other diversification, different people may contain different skills, knowledge and ideas. Managers should always initiate to manage and use them.
6. **Technological advancement:** Technology is one of the most important factors influencing quality. There may always be space of improvement in technology. Management should always focus to develop the technology either by innovation or by purchasing. This means to improve the quality of the product, technology must be improved.
7. **Benchmarking:** This is the method of getting knowledge and skills to improving quality of the product and service from similar but leader in the market. Nowadays, most of the organizations adopt this principle in which sector they are not confident.
8. **Improving quality of service:** Currently, almost all of service oriented businesses are successful. But customers expect better and timely service from service providers. Therefore, managers have started to give more emphasis in quality service.
9. **Total quality management:** Total quality management is the philosophy that concerns about gradual improvement in the quality of the product. For it there must be use of quality raw material, quality process and quality mechanism. There are several tools that are used by the organization to improve the quality of goods and services it provides.

SUMMARY OF LEARNING OBJECTIVES

- **Concept of control system:** Controlling is the process of setting standard for output, measuring actual output, finding deviation, if any, and initiating corrective actions to eliminate or at least minimize the deviation between predetermined output and actual output. The system of regular control to ensure the optimal utilization of resources to attain organizational objective is the controlling system.
- **Process of Controlling**
  1. **Establishing standards:** Control process first sets the standards which are criteria or basic level of expected output. On the basis of standards; actual performance is to be evaluated.
  2. **Measuring performance:** Actual output or performance is measured against the desired result.
  3. **Comparing actual performance with standard performance:** In the controlling process, the actual performance is then, compared with prescribed standard in order to identify deviation if any; by ascertaining extent of deviation.
  4. **Taking corrective actions:** Corrective actions should be selected on the basis of the deviations such as training and development, review of strategy and policy, change in resources etc. in order to remove or reduce the causes of deviation.
- **Types of Control System**
  1. Pre-control (Free forward control)
  2. Concurrent control
  3. Post-control (Feedback control)

- **Characteristics of Effective Control System**
  1. Suitability
  2. Simplicity
  3. Economically realistic
  4. Integrated
  5. Flexible
  6. Objectivity
  7. Accuracy
  8. Strategic Focus
  9. Acceptable
  10. Quick
  11. Corrective
  12. Forward looking
- **Barriers to successful controlling**
  - Over control
  - To liberal
  - Expensive
  - Poor visioning
  - Overemphasis on quantitative data
  - Influences of external factors
  - Lack of satisfactory standards
  - Poor ownership
- **Concept of quality:** Quality is the distinguishing features of the product that affects its ability to satisfy stated and implied needs of the consumers. The term quality is often felt to be something that cannot be explained in quantitative terms or defined precisely.

  Quality controlling is the functioning of ensuring that the product or service quality confirms the predetermined standards.

  A quality control program involves determining minimum standards of acceptability. If there is serious gap between the standards and actual performance, corrective measures may be necessary. Quality controlling implies the general activities of the controlling process.
- **Factors Affecting Quality**
  - People
  - Policy
  - Equipments and technology
  - Research and development
  - Materials
  - Engineering and design
  - Strategic commitments
- **Importance of Quality**
  - Improving competitiveness
  - Improving productivity
  - Improving the market position
  - Improving Image
  - Improving cost effectiveness
- **Total Quality Management (TQM)**

  TQM refers to the strategic commitment of top level management for planning continuous improvement in quality of product to meet the requirements of customers. It focuses not only on the product quality but also for the improvement of quality of work life of all employees.
- **Technique of TQM**
  - Benchmarking
  - Outsourcing
  - Statistical quality control (SQC)
  - Right first time
  - ISO 9000
  - Speed
  - Just in time (JIT)
- **Deming Management:** Deming management is application of Edward Deming's principle in the field of quality control. His approach is directed towards revitalizing the production system through making it more responsive to people, more democratic and more efficient. Deming approaches TQM form from a philosophical angle and pronounced his points. According to Deming Managemet, top management has primary responsibility for achieving product quality and should give high attention.
- **Principles and techniques of Deming management**
  - Constancy of purpose for improvement
  - Adopting new philosophy
  - Cease dependency on mass inspection
  - End the practice of awarding business on price tag alone
  - Seek continuous improvement
  - Institute modern method of training
  - Institute leadership
  - Drive out fear
  - Break-down barriers between staff areas
  - Eliminate slogan and target
  - Eliminate numerical quotas
  - Remove barriers to pride of workmanship
  - Institute a vigorous program of education and training
  - Take action to attain the transformation
- **Deming PDCA Cycle :** W. Edwards Deming suggested a cyclic diagram to illustrate this continuous process which is commonly known as the PDCA cycle. PDCA stands for Plan, Do, Check, Act.
  - **Plan :** Management must plan product development.
  - **Do :** Management should produce the goods and services as the plan.
  - **Check :** After the production is started, management should start checking to find any deviations if any.
  - **Act :** This step is for the research and development of products and services.

Quality Improvement Process

a. **The incremental improvement process:** Incremental improvement is an approach to process improvement in which organization focuses on the efforts on small but steady solutions that ascertain the improvements in organizational process and progress. These ideas are typically low-cost and low-risk, and are implemented by employees in the entire organization.

Process of incremental improvement

- Choose an area of improvement
- Organize a quality improvement team
- Identify benchmark
- Perform analysis of current performance
- Perform pilot study
- Management implements the improvements

b. **Reengineering improvements:** Business process reengineering is the process of changing the ways to perform in order to achieve the effectiveness and efficiency. Reengineering makes the process more flexible, responsive and productive. Reengineering demands complete rethinking of operations.

- Organize around outcomes, not tasks
- Have complete functions who use the output of the process
- Incorporate information-processing work into the real work
- Treat geographically dispersed resources as they were centralized
- Link parallel activities instead of integrating their results
- Decentralize and build control into the process
- Capture information once and at the source

Emerging Issues in Quality Management

- Innovation and change
- Reengineering organization structure
- Knowledge management
- Benchmarking
- Total quality management
- Motivation of employees
- Work force diversity
- Technological advancement
- Improving quality of service

EXERCISE

Brief Answer Questions

1. What is meant by control?
2. State various features of controlling.
3. Controlling is the corrective action. Comment the statement.
4. State the reasons why controlling is important.
5. What are the different steps involved in controlling?
6. Explain the pre-control.
7. What is meant by concurrent control?
8. Why is post control essential?
9. What is meant by effective control system?
10. State any four features of effective control system.
11. What are the possible problems in effective control system?
12. Explain the role of information management in effective control.
13. Make a list of several systems for information management.
14. Explain executive information system.
15. What is the budgetary control?
16. State various objectives of budget.
17. Explain, in brief, different types of budget.
18. State different techniques to be used for financial control.
19. What is meant by quality control system?
20. State various factors affecting quality.
21. What is meant by total quality control?
22. Suggest any four techniques for total quality control.
23. Define Deming Management.
24. State any four principles of Deming Management.
25. Explain PDCA cycle.
26. State any four techniques suggested by Deming for quality control.

Descriptive Answer Questions

27. Define control. What are the major techniques of control?
28. Enumerate the types of control and state which monitoring technique is effective.
29. Explain different steps involved in controlling.

30. Explain different types of control systems used in management.
31. Define control. Explain why the control is essential.
32. What is controlling? Explain the characteristics of effective control system.
33. Why is controlling considered as important function of management? Explain the characteristics of effective control system.
34. Explain various problems of effective control.
35. Define management information system. Explain its main component.
36. Define decision support system. Mention its main features.
37. What is meant by financial control? Explain the different tools of financial control.
38. Define budgetary control? Explain its main features.
39. Define quality. Explain different factors affecting quality.
40. Define quality circle. Explain the objectives of quality circle.
41. What is Total Quality Management? Describe the factors affecting quality.
42. What is TQM? Explain the tools of TQM.
43. Describe Deming's principles and techniques of quality management.

Analytical Answer Questions

44. Control is a management function that focuses on the process of monitoring activities to ensure that they are being accomplished as planned. As a manager of an organization, what types of control system would you recommend to achieve planned results?
45. Control is a process of monitoring activities to ensure that they are being accomplished as planned and correcting any significant system. In the light of the above statement, discuss the process and problems of control system.
46. Define budget as a tool of controlling. Explain different types of budgets commonly practice.
47. Quality improvement has no barriers and limitation. On the light of this statement, explain the concept of Total Quality Management and explain different tools of TQM.

CASE

Although it may appear easier to find success with TQM at a boutique-sized endeavor, the philosophy's principles hold true in virtually every sector. Educational institutions, for example, have utilized quality management in much the same way – albeit to tackle decidedly different problems.

Globally, the global financial crisis hit higher education harder than many might have expected, and now by the Covid-19 pandemic. Nepali education institutions need to compete global institution and specially with indian academic institution in the days to come. Regarding the quality of MBA graduates, a report recently asserted just 25 percent MBAs were adequately prepared for the business world.

At the ABC School of Management, Kathmandu, recruiters specifically called into question the quality of students' educations. The ABC board decided it was time for a serious reassessment of quality management. The school nominated Chief Academic Advisor to head a volunteer team that would audit, analyze and implement process changes that would improve quality throughout. The team was tasked with looking at three key dimensions: assurance of learning, research and productivity, and quality of placements. Each member underwent extensive training to learn about action plans, quality auditing skills and continuous improvement tools – such as the 'plan-do-study-act' cycle.

Once faculty members were trained, the team's first task was to identify the school's key stakeholders, processes and their importance at the institute. Unsurprisingly, the most vital processes were identified as student intake, research, knowledge dissemination, outcomes evaluation and recruiter acceptance. From there, the team used a fishbone diagram to help identify potential root causes of the issues plaguing these vital processes. To illustrate just how bad things were at the school, the team selected control groups and administered domain-based knowledge tests.

The deficits were disappointing. ABC students' knowledge base was rated at just 36 percent, while students at Harvard rated 95 percent. Likewise, students' critical thinking abilities rated nine percent, versus 93 percent at MIT. Worse yet, the mean salaries of graduating students averaged Rs. 36,000, versus Rs. 150,000 for students from Kellogg.

To tackle these issues, team created an employability team, developed strategic architecture and designed pilot studies to improve the school's curriculum and make it more competitive. In order to do so, he needed absolutely every employee and student on board – and there was some resistance at the onset. Yet the educator asserted it didn't actually take long to convince the school's stakeholders the changes were extremely beneficial.

No matter the business, total quality management can and will work. Yet this philosophical take on quality control will only impact firms that are in it for the long haul. Every employee must be in tune with the company's ideologies and desires to improve, and customer satisfaction must reign supreme.

Questions

1. Based on the case, elaborate the philosophy of ABC School.
2. Team is most essential for successful implementation of Total Quality Management. Justify the statement based on case.
3. Enlist the essential for making the quality improvement success in any academic institution.
4. How can you use PDCA cycle to improve this quality issue of this case? Make a plan.

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