Control and Quality Management

Meaning of Controlling

- The process of measuring and comparing standard set by management and taking corrective action is called controlling.
- It is one of the important functions of management.
- The organizational structure, resources (ie, human resources and physical resources, predetermined goals) set standard of management.
- Controlling is essential for deviations.
- The managerial function of controlling is the measurement and correction of the of the performance of activities of sub-ordinates in order to make that enterprise objectives and the plans devised to attain them are being accomplished.

Process/Steps of controlling

- Establishment of standard
- Measure of actual performance
- Comparison of actual performance
- Analyze the causes of deviation
- Taking remedial action

Types of Control

- Pre-Control
- Concurrent Control
- Post Control

Essentials of Effective Control

- Suitability
- Simplicity
- Objectivity
- Economical
- Comprehensive
- Capable to communicate
- Suggestive
- Flexibility
- Responsibility
- Strategic and exceptional
- Forward looking

Control tools and techniques

- Personal Control
- Bureaucratic Control
- Output control
- Cultural control
- Control through incentives
- Market control

Quality (Concept)

- The required features inherent in any goods or service for making them acceptable by customers or service seekers is termed as quality.
- It is the degree of customer's perception of excellence.
- Any attractive outlook of the product only doesnot ensure that product is qualitative in nature.
- The degree to which customers satisfaction is met by fulfilling their needs and accepted by the mass makes the product qualitative

Importance of quality

- Meet competition
- Increase productivity
- Minimize cost
- Facilitates expansion of organization
- Maintain image and goodwill
- Important aspect of mankind

Total Quality Management(concept)

- Total Quality Management is the management approach involving all the processes or steps to ensure that products have highest degree of excellence for use or services are extremely fruitful for the service seekers.
- The aim of total quality should be zero defect.
- It is the aspect of management that leads to competition among modern organizations in dynamic environment.
- Quality management systems are relevant to all organizations whether large or small, public or private, manufacturing or non-manufacturing or service.

Components of quality management

- Continuous improvement of skills
- Use of team work
- Improving processes, product and service
- Focus on customer satisfaction

Principles of quality management

- Continuous improvement
- Focus on customers
- Change in culture
- Employee involvement
- Prepare strategic plan
- Focus on team work
- Efficiency development
- Mutual relation with suppliers
- Focus on system approach
- Emphasize information

Tools and Techniques/Methods of quality management

- Benchmarking
- Outsourcing
- Speed
- ISO 9000
- Statistical quality control

Emerging issues in quality management

- Redesign organizational structure
- Work force diversity
- Innovation and change
- Motivation of employees
- Knowledge management
- Technological development
- Improving quality of service
- Benchmarking
- Assurance of total quality management

Production and Operation Management

- Production / Operations Management is defined as the process which transforms the inputs/resources of an organization into final goods (or services) through a set of defined, controlled and repeatable policies.
- By policies, we refer to the rules that add value to the final output.
- Production and Operations Management ("POM") is about the transformation of production and operational inputs into "outputs" that, when distributed, meet the needs of customers.
- Effective operation management involves various quantitative tools for taking vital decisions by the managers.
- Use of pay off tables and pay off matrixes, Economic order quantity, game theory, queuing theories are the some of the tools of operation management.
- After production activities are over, operation activities arises in order to give continuity to the business for functioning smoothly with maximum efficiency.

Supply Chain Management

- Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products.
- It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace.
- SCM represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible.
- Supply chains cover everything from production to product development to the information systems needed to direct these undertakings.

Kaizen Strategy

- *Kaizen* is a Japanese philosophy that focuses on continual improvement throughout all aspects of life.
- When applied to the workplace, Kaizen activities can improve every function of a business, from manufacturing to marketing and from the CEO to the assembly-line workers.
- Kaizen aims to eliminate waste in all systems of an organization through improving standardized activities and processes.
- By understanding the basics of Kaizen, practitioners can integrate this method into their overall Six Sigma efforts and also apply 5 S practice.

Cycles involved in Kaizen

- Identify an opportunity
- Analyze the process
- Develop an optimal solution
- Implement the solution
- Study the results
- Standardize the solution
- Plan for the future

- Kaizen generates small improvements as a result of coordinated continuous efforts by all employees.
- *Kaizen events* bring together a group of process owners and managers to map out an existing process and identify improvements that are within the scope of the participants.

The Japanese 5 S practice

- 5S is a simple tool for organizing your workplace in a clean, efficient and safe manner to enhance your productivity, visual management and to ensure the introduction of standardized working.
- The 5S philosophy focusses on effective workplace organisation, helps simplify the workplace environment and reduce waste, while improving quality and safety.

Meaningsof five Japanese words

There are five 5S phases. They can be translated from the Japanese as "sort", "set in order", "shine", "standardize", and "sustain".

Sort (seiri 整理)

1S – a red tag area containing items waiting for removal.

Seiri is sorting through all items in a location and removing all unnecessary items from the location.

Goals:

- Reduce time loss looking for an item by reducing the number of items.
- Reduce the chance of distraction by unnecessary items.
- Simplify inspection.
- Increase the amount of available, useful space.
- Increase safety by eliminating obstacles.

Cont...

Set in order (seiton)[edit]

2S – simple floor marking.

- (Sometimes shown as *Straighten*)
- Seiton is putting all necessary items in the optimal place for fulfilling their function in the workplace.
- Goal:
- Make the workflow smooth and easy.

Cont...

- **Shine (seiso)**[edit]
- 3S – cleanliness point with cleaning tools and resources.
- Seiso is sweeping or cleaning and inspecting the workplace, tools and machinery on a regular basis.
- Goals:
- Improves the production process efficiency and safety, reduces waste, prevents errors and defects.
- Keep the workplace safe and easy to work in.
- Keep the workplace clean and pleasing to work in.

Cont…

- **Standardize (seiketsu)**[edit]
- Seiketsu is to standardize the processes used to sort, order and clean the workplace.
- Goal:
- Establish procedures and schedules to ensure the repetition of the first three ‘S’ practices.

Cont..

- Shitsuke or sustain the developed processes by self-discipline of the workers. Also translates as "do without being told".
- Goal:
- Ensure that the 5S approach is followed

Six sigma approach

- Six Sigma is a business management strategy which aims at improving the quality of processes by minimizing and eventually removing the errors and variations.
- The concept of Six Sigma was introduced by Motorola in 1986, but was popularized by Jack Welch who incorporated the strategy in his business processes at General Electric.
- The concept of Six Sigma came into existence when one of Motorola's senior executives complained of Motorola's bad quality.

- Quality plays an important role in the success and failure of an organization.
- Neglecting an important aspect like quality, will not let you survive in the long run.
- **Six Sigma ensures superior quality of products by removing the defects in the processes and systems**.

Following are the two Six Sigma methods:

- DMAIC
- DMADV

DMAIC focuses on improving existing business practices. DMADV, on the other hand focuses on creating new strategies and policies.

DMAIC has Five Phases

- **D - Define the Problem**. In the first phase, various problems which need to be addressed to are clearly defined. Feedbacks are taken from customers as to what they feel about a particular product or service. Feedbacks are carefully monitored to understand problem areas and their root causes.
- **M - Measure and find out the key points of the current process**. Once the problem is identified, employees collect relevant data which would give an insight into current processes.
- **A - Analyze the data**. The information collected in the second stage is thoroughly verified. The root cause of the defects are carefully studied and investigated as to find out how they are affecting the entire process.
- **I - Improve the current processes** based on the research and analysis done in the previous stage. Efforts are made to create new projects which would ensure superior quality.
- **C - Control the processes** so that they do not lead to defects.

Technology Management

- Technology management is a vague concept.
- It is more difficult to define in one or few sentence.
- In general, technology management is concerned with keeping in touch and adaptation with innovation of new technology in the concerned area of business.
- It is important part of management to remain up to date on technology in the concerned field of knowledge.

Cont...

- Technology is ever changing process.
- The social environment is changeable and on the basis of changing social environment technology is also changing.
- The change in technology brings new concept, idea, knowledge, model, design and system in business.
- The use of new technology in business helps to draw the attention of the customers.
- A successful business organization is the one which can introduce new concept and idea in the society.

Management Information System and IT

- Management information system is a formal method of collecting information in a summarized form in order to facilitate decision making.
- In other words, it is a information that will assist them in decision making.
- It is designed to provide information needed by management in order to plan, control and evaluate the functions of the organization.
- It provides analytical and systematic information necessary to all levels of managers for taking the right decision at the right time.

Components of MIS

- Assembly
- Processing
- Analysis
- Storage and retrieval
- Evaluation
- Dissemination

Cont…

- Assembling is the process of searching and collecting raw data and putting them into a file.
- Processing is the act of editing and summarizing the data.
- Analysis is process of examining and scruitinizing the data into useful statistics such as percentage, ratio, etc.
- Storage and retrieval is the process of coding and indexing the data for quick rearrangement and recovery at the time of requirement.
- Evaluation is the process of determining the usefulness of processed data.
- Dissemination is the act of giving information in the required form to the decision maker.

Cont...

- **IT or information technology refers to the development, maintenance, and use of computer software, systems, and networks.**
- . It includes their use for the processing and distribution of data.
- Information technology refers to anything related to computing technology. The Internet, for example, comes under the umbrella term IT. So does computer hardware, software, and networking.” definition by information technology trend 2019.