

# FUNDAMENTAL OF INDUSTRIAL MANAGEMENT

<b>Unit -2</b> <b>Organizational Aspects of Quality Assurance</b>	<ul style="list-style-type: none"><li>• Quality Assurance (QA): Introduction, Definition, Management principles in QA, QA in different stages, Quality Planning.</li><li>• ISO: Introduction, ISO 9000 series of standard, Benefits of ISO.</li><li>• ISO 9001, Benefits of ISO 9001.</li></ul>
--	---

## Quality Assurance (QA):

**Quality Assurance (QA)** - “all planned and systemic activities necessary to provide adequate confidence that a product or service will satisfy given requirements for quality”.

- Quality assurance is oriented toward preventing defects.
- It is defined by those activities that modify the development processes to prevent the introduction of defects.
- Quality assurance is more concerned with the processes that produce the final product and making sure that quality is part of each phase.
- QA is about maturing the process towards minimum defect.
- It is about balancing methodology, leadership, and technology.
- It is about taking into account human factors as well as technological ones.

## **Management principles:**

- 1 Customer focus
- 2 Leadership
- 3 Involvement of people
- 4 Process approach
- 5 System approach to management
- 6 Continuous improvement
- 7 Factual approach to decision making
- 8 Mutually beneficial supplier relationships



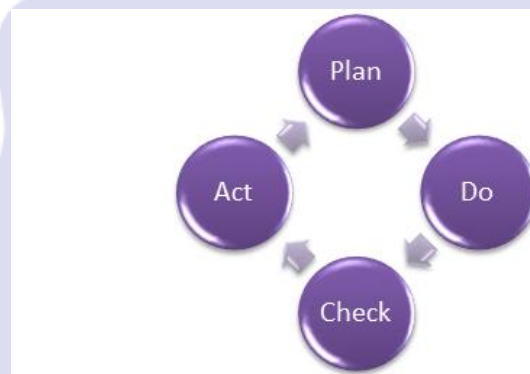
## QA in different stages:

Quality assurance has a defined cycle called PDCA cycle or Deming cycle. The phases of this cycle are:

- Plan
- Do
- Check
- Act

These above steps are repeated to ensure that processes followed in the organization are evaluated and improved on a periodic basis. Let's look into the above steps in detail -

- **Plan** - Organization should plan and establish the process related objectives and determine the processes that are required to deliver a high-Quality end product.



- **Do** - Development and testing of Processes and also "do" changes in the processes
- **Check** - Monitoring of processes, modify the processes, and check whether it meets the predetermined objectives
- **Act** - Implement actions that are necessary to achieve improvements in the processes. An organization must use Quality Assurance to ensure that the product is designed and implemented with correct procedures. This helps reduce problems and errors, in the final product.

## Quality Planning:

Systematic approach to understand the customer requirements and ensuring that all requirements met. By planning the quality one has to respect some principles:

- **Customer satisfaction comes first:** Quality is defined by the requirements of the customer.
- **Prevention over inspection:** It's better to avoid mistakes than to inspect the result and repair the defects.
- **Management responsibility:** Costs of quality must be approved by the management.

- **Continuous improvement:** Becoming better is an iteratively structured process

### **Quality Planning**

- This is a planning activity. Indeed, in PMBOK (Project Management Body of Knowledge), it's classified under the Planning Process Group.
- The key outputs are Quality Management Plan, Quality Improvement Plan, Metrics, Checklists.
- To arrive at these outputs, the key activities are Determining relevant quality standards (leads to metrics and checklists), Determining how to arrive at these standards (to arrive at the management and improvement plans).

Let's take an example of building a house. Prior to the start of the actual building, key metrics for success are determined. Most of these metrics have to do with the requirements of the customer: 900 sq. ft of usable floorspace, no direct morning sunlight coming in, good air circulation, good fengshui etc. Some metrics are company standards and impact the reputation of the company e.g. quality of the workmanship.

Quality Planning would then be to come up with a plan to determine eg. how to measure these metrics or checklists, when to do so, if there's a need for external consultants (eg. fengshui master) etc.

### **ISO (International Standard Organization):**

ISO is a International Standard Organization

- To improve the management of business or benchmark the company's performance against other businesses around the world.
- To develop and provide international standards in response to market needs.
- To provide the guidance for applying and enforcing the standard them to ensure your business satisfies internationally recognized procedures

### **ISO 9000:**

Quality is something every company strives for and is often times very difficult to achieve. Complications concerning efficiency and quality present themselves everyday in business, whether an important document cannot be found or a consumer finds a product not up to their expectations. How can a company increase the quality of its products and services? The answer is ISO 9000.

As standards go, ISO 9000 is one of the most widely recognized in the world. ISO 9000 is a quality management standard that presents guidelines intended to increase business efficiency

and customer satisfaction. The goal of ISO 9000 is to embed a quality management system within an organization, increasing productivity, reducing unnecessary costs, and ensuring quality of processes and products.

ISO 9001 is applicable to businesses and organizations from every sector. The process oriented approach makes the standard applicable to service organizations as well. Its general guidelines allow for the flexibility needed for today's diverse business world.

### **Importance ISO 9000:**

The importance of ISO 9000 is the importance of quality. Many companies offer products and services, but it is those companies who put out the best products and services efficiently that succeed. With ISO 9000, an organization can identify the root of the problem, and therefore find a solution. By improving efficiency, profit can be maximized.

As a broad range of companies implement the ISO 9000 standards, a supply chain with integrity is created. Each company that participates in the process of developing, manufacturing, and marketing a product knows that it is part of an internationally known, reliable system.

Not only do businesses recognize the importance of the ISO 9000, but also the customer realizes the importance of quality. And because the consumer is most important to a company, ISO 9000 makes the customer its focus.

### **ISO 9000 Management principles:**

#### **1. A Customer Focus**

As stated before, the customer is the primary focus of a business. By understanding and responding to the needs of customers, an organization can correctly targeting key demographics and therefore increase revenue by delivering the products and services that the customer is looking for. With knowledge of customer needs, resources can be allocated appropriately and efficiently. Most importantly, a business's dedication will be recognized by the customer, creating customer loyalty. And customer loyalty is return business.

#### **2. Good Leadership**

A team of good leaders will establish unity and direction quickly in a business environment. Their goal is to motivate everyone working on the project, and successful leaders will minimize miscommunication within and between departments. Their role is intimately intertwined with the next ISO 9000 principle.

#### **3. Involvement of people**

The inclusion of everyone on a business team is critical to its success. Involvement of substance will lead to a personal investment in a project and in turn create motivated, committed workers. These people will tend towards innovation and creativity, and utilize their full abilities to complete a project. If people have a vested interest in performance, they will be eager to participate in the continual improvement that ISO 9000 facilitates.

#### **4. Process approach to quality management**

The best results are achieved when activities and resources are managed together. This process approach to quality management can lower costs through the effective use of resources, personnel, and time. If a process is controlled as a whole, management can focus on goals that are important to the big picture, and prioritize objectives to maximize effectiveness.

#### **5. Management system approach**

Combining management groups may seem like a dangerous clash of titans, but if done correctly can result in an efficient and effective management system. If leaders are dedicated to the goals of an organization, they will aid each other to achieve improved productivity. Some results include integration and alignment of key processes. Additionally, interested parties will recognize the consistency, effectiveness, and efficiency that come with a management system. Both suppliers and customers will gain confidence in a business's abilities.

#### **6. Continual Improvement**

The importance of this principle is paramount, and should be a permanent objective of every organization. Through increased performance, a company can increase profits and gain an advantage over competitors. If a whole business is dedicated to continual improvement, improvement activities will be aligned, leading to faster and more efficient development.

Ready for improvement and change, businesses will have the flexibility to react quickly to new opportunities.

#### **7. Factual approach to decision making**

Effective decisions are based on the analysis and interpretation of information and data. By making informed decisions, an organization will be more likely to make the right decision. As companies make this a habit, they will be able to demonstrate the effectiveness of past decisions. This will put confidence in current and future decisions.

#### **8. Supplier relationships**

It is important to establish a mutually beneficial supplier relationship; such a relationship creates value for both parties. A supplier that recognizes a mutually beneficial relationship will be quick to react when a business needs to respond to customer needs or market changes. Through close contact and interaction with a supplier, both organizations will be able to optimize resources and costs.

### **ISO 9000 and ISO 9001**

In ISO 9000 documents, most people learn about vocabulary associated with improving processes. Understanding vocabulary is essential to executing plans for improvement related to ISO 9000 documents. The documents do not include numerous actionable items that could result in improvements. On the other hand, if your company wants to know what to do for improvement, employees should read the requirements featured in ISO 9001. They will tell employees what is required of them to improve their processes within the company.

## **Benefits of ISO 9001**

ISO 9001 aims to provide a practical and workable Quality Management System for improving and monitoring all areas of your business.

Achieving the ISO 9001 standard is not about establishing a set of procedures that are complicated and difficult to manage. The aim is to provide a workable management system that is suitable for your organisation. With the right support and the knowledge of your employees, you will end up with a system that will improve all areas of your organisation.

Implementing an effective and robust ISO 9001 Quality Management System (QMS) will help you to focus on the important areas of your business and improve efficiency. The management processes that are established throughout your business will provide a sound foundation, leading to increased productivity and profit. This in turn will improve your customer acquisition and retention.

Some of the main benefits of ISO 9001 certification include:

- Suitable for both small and large organisations
- Better internal management
- Less wastage
- Increase in efficiency, productivity and profit
- Improved customer retention and acquisition
- Consistent outcomes, measured and monitored
- Globally recognised standard
- Compatible with other ISO standards

The logo for SVSU (Sri Vasavi School of Vocations) is centered on the page. It features a stylized lightbulb with a yellow glow, a Wi-Fi symbol above it, and a computer monitor with a yellow arrow pointing upwards and to the right. Below the lightbulb is a brown rectangular box with the letters 'SVSU' in white. Underneath that is the Sanskrit motto 'योगः कर्मसु कौशलम्' in orange. At the bottom, the letters 'SVSU' are written in a large, bold, blue font.

**SVSU**