QUALITY ASSURANCE AND CONTROL

- Consumers demand quality in a competitive market
- However, it is difficult to define quality as it means different things to different people
- Definitions?
- Quality of finish?
- Price paid for good?
- Reliable?
- Life span?

FACTORS AFFECTING QUALITY

- Quality Assurance
- Quality Control
- Quality Standards
- Total Quality Management

QUALITY ASSURANCE

Aims to make sure that quality standards are:

- ❖Set دانان
- ❖Agreed رازی بوون
- ❖Met کۆبوونەوە

through the entire organisation

oAim is to ensure customer satisfaction and reduce the return of faulty goods

QUALITY CONTROL

- Assumes that there will be a degree of waste from products up to 25% if the organisation has a system in place of quality checking at the end of the manufacturing process
- Leads to increased costs of production as some goods may not ‘pass’ the quality control

QUALITY ASSURANCE

- Based on prevention
- Aims to ensure that quality standards are set, agreed and met through the organisation
- Aims to create a situation in which “right first time, every time” becomes a real possibility
- Quality Assurance and Quality Control are two different conceptsچەمکەکان
- **Quality Control product-oriented approach not the process.**

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QUALITY ASSURANCE

- Quality is checked at every stage of the manufacturing process thereby reducing wastage and scrap to 5% or less
- It checks the good at every stage of the process instead of just the end product
- Good quality control is achieved through the use of quality assurance

QUALITY STANDARDS

- Consumers have a right to expect that goods are of a ‘satisfactory quality’ and that they are ‘fit for the purpose for which they are intended’
- This is further supported by the legal system who have continually supported the consumer in cases of ‘bad quality’

MEASUREMENTS OF QUALITY

- Appearance
- Safety
- Availability
- Value for money
- Ease of use
- Consumer after sales support
- Reputation of the product and company

TOTAL QUALITY MANAGEMENT (TQM)

- **Aims to produce a perfect product or service every time in order to meet customer requirements**
- **Uses the same principles of quality assurance but views the exact needs and requirements of the customer must be regarded above everything else**
- **The client عمیلtells the manufacturer what they want, and it is up to the manufacturer to use this as a guide (benchmark) for quality**

INTRODUCING TQM

Requires 4 elements:
The definition of quality
The commitment of all the workforce پابەندبوونی هەموو هێزی کار
A system in which this quality can be assured
A measure of the ability to meet quality requirements

BENCHMARKING المقارنه المعياريه

- System of quality assurance which uses the best performers in an industry to set standards for others to meet
- Compare your own performance to market leaders in the same field
- Subjective (personal view) and is usually identified from consumers, industry journals and journalists

QUALITY CIRCLES

Groups of people that meet regularly within the organisation
Identify, discuss and resolve problems in the production process
Should include people from the shop floor to senior managers

- **Process-oriented approach** يسعى
  - A process-oriented approach strives **to move and make improvements.**
  - It motivates followers to fight to look for **achieving results by following a pattern.**

Quality Control is a product focused concept while Quality Assurance is a process focused concept

Key Points

Quality control can be defined as part of quality management focused on fulfilling quality requirements. While quality assurance relates to how a process is performed or how a product is made, quality control is more the inspection aspect of quality management.

Quality Control	Quality Assurance
Places great focus on the quality of product analysis.	Concentrates on analyzing the processes within SDLC.
Utilized to test the product by calling it up.	Utilize to analyze the set of documents without a particular focus on the end product.
The testing team engaged in the software testing.	The whole team engaged in a process.
Assess the reliability of the end product	Determines if the product fulfills the requirement
Applied to find defects, errors in the product that is being built	Applied to Identify, analyze and prevent the occurrence of defects
Functional testing, automated testing, etc are used.	Documents review, inspection, test case review, etc are used.

Important Points

- The **ISO (International Organization for Standardization)** is a driving force behind **QA practices.**
- It maps the processes used **to implement QA.**
- Many companies use **ISO 9000** to ensure that their quality assurance system is in place and effective.
- **ISO 22000** deals with the food safety management system within the food business is also an example of QA.

What Is the International Organization for Standardization (ISO)?

The International Organization for Standardization (ISO) is an international nongovernmental organization made up of national standards bodies. The ISO develops and publishes a wide range of proprietary, industrial, and commercial standards and is comprised of representatives from various national standards organizations.

What Is an Example of an ISO Standard?

Some examples of ISO standards include the calibration of thermometers, food safety regulations, and the manufacturing of wine glasses. ISO standards also cover shoe sizes, musical pitches, security management, and environmental management.

What Are the 2 Most Popular ISO Standards?

The two most popular ISO standards are ISO 9001 and 14001. 9001 provides criteria for quality management systems, while 14001 provides criteria for environmental management systems.

What Is ISO 9000?

ISO 9000 is a standard that focuses on quality management and quality assurance. The standard is used by companies to develop and maintain their quality systems. The goal of ISO 9000 is to apply to companies in all industries. Areas of focus include relationship management, customer focus, and leadership.

ISO certification in chemistry ensures that chemical industries follow to standardized processes for the production, handling, and distribution of chemicals. For companies operating in this field, securing ISO certification for chemical industries is essential for establishing trust and agreement with both customers and regulators.

Common ISO Certifications in the Chemical Industry

Several ISO certifications are commonly sought after in the chemical sector to ensure best practices across all operations. Below are five key certifications:

1. ISO 9001: Quality Management System

ISO 9001 ensures that the company's quality management processes produce consistent and reliable results. This standard is fundamental for companies in the chemical industry that need to guarantee the safety and efficacy of their products.

2. ISO 14001: Environmental Management System

ISO 14001 sets the standard for managing a company's environmental responsibilities. It ensures that chemical companies actively work to reduce their environmental impact by implementing effective waste management systems.

3. ISO 45001: Occupational Health and Safety

ISO 45001 focuses on improving worker safety by establishing a comprehensive occupational health and safety management system. In a high-risk industry like chemicals, this certification helps reduce the likelihood of accidents and injuries.

4. ISO 17025: Testing and Calibration Laboratories

This certification is particularly relevant for companies that conduct chemical testing. ISO 17025 ensures that laboratories perform competently and deliver valid and reliable results.

5. ISO 50001: Energy Management System

Energy efficiency is crucial in the chemical industry, which often consumes significant amounts of energy. ISO 50001 helps companies reduce energy usage, lower costs, and minimize environmental impacts.

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