

Quality Assurance and its Practice in Different Industries

Nathaniel Walton*

Department of Pharmacology, Ain Shams University, Cairo, Egypt

Commentary

Received: 29-Nov-2022, Manuscript No. JPPS-22-82884; **Editor assigned:** 02-Dec-2022, Pre QC No. JPPS-22-82884 (PQ); **Reviewed:** 16-Dec-2022, QC No. JPPS-22-82884; **Revised:** 23-Dec-2022, Manuscript No. JPPS-22-82884 (R); **Published:** 30-Dec-2022, DOI: 10.4172/2320-1215.11.7.003

***For Correspondence:**

Nathaniel Walton, Department of Pharmacology, Ain Shams University, Cairo, Egypt

E-mail: walton.nathaniel@gmail.com

DESCRIPTION

The term Quality Assurance (QA), which is used in both the manufacturing and service sectors of the economy, refers to the methodical measures taken to guarantee that the goods delivered to customers meet their contractual and other agreed-upon requirements for performance, design, reliability, and maintainability. What ISO 9000 refers to as ensuring quality and so preventing problems and delays while delivering goods or services to consumers is that "component of quality management focused on creating confidence that quality standards will be achieved." This defect prevention aspect of quality assurance has been referred to as a shift left because it emphasises quality efforts earlier in product development, production and on preventing defects in the first place rather than correcting them after the fact. It is distinct from the quality control component of defect detection.

When discussing strategies for ensuring the quality of a service or a product, the words "quality assurance" and "quality control" are sometimes used interchangeably. For instance, the term "assurance" is frequently used in the following context: Philips Semiconductors describes the use of inspection and structured testing as a measure of quality assurance in a television set software project. Where "inspection and structured testing" refers to the measurement phase of the DMAIC model of quality assurance (define, measure, analyze, improve, control). A data-driven quality method used to enhance processes is called DMAIC. The fifth stage of this method is "control."

In order to ensure that the requirements and objectives for a product, service, or activity are met, a quality system must incorporate administrative and procedural operations. Error prevention is provided through systematic measurement, comparison with a standard, and monitoring of operations in a related feedback loop. In contrast to this, quality control is concerned with the results of the process.

Types of Industries

Medical industry: QA is crucial in the medical industry since it helps in defining the standards for medical products and services. External organizations are used by hospitals and laboratories to establish standards for tools like X-ray machines, Diagnostic Radiology, and AERB. QA is especially relevant during the development and launch of new pharmaceuticals and medical devices. Through its members and regulatory agencies, the Research Quality Association (RQA) supports and promotes the quality of research in the life sciences.

Aerospace industry: Product Assurance (PA), one of the three primary project functions, is occasionally used in place of quality assurance. Quality assurance is seen as one component of product assurance. Due to the potentially catastrophic repercussions that a single failure can have on people's lives, the environment, a technology, or a mission, product assurance is essential in this situation. Because of its organizational, financial, and product development independence, it only answers to higher management, runs its own budget, and doesn't employ people to help with product development. Product assurance values the customer's viewpoint and competes with project management on an equal basis.

Software development: Monitoring the procedures and techniques used in software engineering to assure quality is referred to as software quality assurance. To do this, a variety of techniques or frameworks are used, such as guaranteeing compliance with one or more standards, such as ISO 25010 (which replaces ISO/IEC 9126), or process models, such as CMMI or SPICE. Additionally, corporate quality management software is utilized to address problems like supply chain disaggregation and guarantee regulatory compliance, both of which are crucial for producers of medical devices.

Using contractors or consultants: When introducing new quality practices and processes, consultants and contractors may be used, especially if the business has the necessary resources and the necessary capabilities. The use of Quality Management Systems (QMS), CMMI, Six Sigma, Measurement Systems Analysis (MSA), Quality Function Deployment (QFD), Failure Mode and Effects Analysis (FMEA), and Advance Product Quality Planning by consultants and contractors is common (APQP).