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QUALITY STANDARDS: SIGNIFICANCE AND APPLICATION

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„ Quality is not an action, it is a habit.”

- Aristotle

What is quality?



- ▶ *Quality is a set of features (considered as distinctive attributes or aspects) of a product/service determining its suitability to meet certain needs in accordance with its purpose (BDS 9577-83).*
- ▶ *Quality is a set of features and characteristics of products/services that determine their suitability to meet identified and anticipated needs (ISO 8402).*
- ▶ *Quality of education refers to the education provided by an education system that emphasizes the importance of focusing on five important elements including: quality learners, quality learning environment, quality content, quality processes, and quality outcomes (Nafukho & Muyia, 2021).*

QUALITY FROM THE PERSPECTIVE OF :

- ▶ **PHILOSOPHY:** *A state of absolute absence of defects and complete perfection.*
- ▶ **DEVELOPER:** *Presence of certain criteria that characterize the product/ service.*
- ▶ **MANUFACTURER:** *Observance of set characteristics when preparing the product/ service.*
- ▶ **USER:** *Optimal satisfaction of needs.*
- ▶ **THE VALUE APPROACH:** *Comparison of the received benefit (income) with the paid price.*
- ▶ **EDUCATION:** *Educational output that meets the demands of the customers (the learners, teachers, parents, community, and the industrial sector)*

Quality education includes (Document No. UNICEF/PD/ED/00/02):

- ▶ Learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities;
- ▶ Environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities;
- ▶ Content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/AIDS prevention and peace.
- ▶ Processes through which trained teachers use child-centred teaching approaches in well-managed classrooms and schools and skilful assessment to facilitate learning and reduce disparities.
- ▶ Outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society

GLOBAL TRENDS IN THE FIELD OF QUALITY

- ▶ *Transition from product quality management to quality management of production processes.*
- ▶ *Globalization of the market requires common standards and tools for evaluating partners (or potential ones).*

The quality assurance trends we're expecting to see in 2021 reflect the need for adaptation and risk management that 2020 has made clear are much needed.

1. A focus on cost efficiencies
2. The importance of agility and adaptability
3. Global risk analysis and management
4. Ensuring sufficient resources
5. Centralized and accessible data
6. Maintaining compliance at all times
7. A need for advanced tools and processes



GLOBAL TRENDS IN THE FIELD OF QUALITY

Businesses/Organizations that are required by law to maintain compliance with standards can't afford to let anything undermine their quality assurance obligations.

- ▶ *The International Standardization Organization (ISO) develops and creates a series of standards for the ISO 9000 quality management system (: 2000).*
- ▶ *The high level of management in all industries requires the quality (of the processes) to be a unifying part of the overall management of the organization.*



PREREQUISITES FOR INTRODUCTION OF QUALITY STANDARDS

Before the first quality standards were adopted, all transactions were concluded only after the consumer independently had checked the supplier and made sure that his products or service were of good quality (In the sense of meeting his/hers expectations (explicit or implicit) and needs.).



PREREQUISITES FOR INTRODUCTION OF QUALITY STANDARDS



To facilitate this process, special standards have been developed with minimum supplier requirements specified by most users.

These standards have subsequently become standards for quality management systems.

HOW ARE THE STANDARDS DEVELOPED ?

- **Need of study;**
- **Set of quality requirements;**
- **Establishment of characteristics;**
- **Development of performance control methods.**

Quality standards are designed to ensure companies/organizations meet the minimum requirements to become an integral part of almost every industry/sector from food to automotive to healthcare and education.



QUALITY STANDARD

- ▶ The quality standard is a normative document including norms, rules and requirements for the supplier of the product or service and it aims at optimization of the technical and economic, social and ecological indicators.

Some organizations struggle with the concepts of quality standards or they view it as a complex system. But with a little bit of information, help and a clear understanding of why quality standards can benefit them, organizations can learn to embrace quality standards rather than buck against them.

Quality isn't just about profits and loss or beating out a competitor. It's about safety, delivering on a promise and meeting the very basics of customer expectations. But, by meeting quality standards, companies/organizations often reap better profits and reduce losses. Those that exceed quality standards stand out above their competitors and further their potential for profit and consumer loyalty. Therein rests the benefit of quality standards.



PRINCIPLES OF QUALITY STANDARDS

Complexity

Systematization

Progressiveness and optimization of standards

Relationship between standards

Advance standardization

Scientific approach

Priority

Interchangeability

But what good are quality standards if it is not clear on how they apply to your specific product or service?

Quality standards are only meant to serve as a framework.

There are still walls to be built, fixtures to be mounted, and a floor to be laid.

This is where quality management systems come into play.

- ▶ Standards provide organizations with the shared vision, understanding, procedures, and vocabulary needed to meet the expectations of their stakeholders. Because standards present precise descriptions and terminology, they offer an objective and authoritative basis for organizations and consumers around the world to communicate and conduct business.



WHO USES QUALITY STANDARDS?

Organizations turn to standards for guidelines, definitions, and procedures that help them achieve objectives such as:

- ▶ Satisfying their customers' quality requirements
- ▶ Ensuring their products and services are safe
- ▶ Complying with regulations
- ▶ Meeting environmental objectives or protecting products against climatic or other adverse conditions
- ▶ Ensuring that internal processes are defined and controlled
- ▶ Use of quality standards is voluntary, but may be expected by certain groups of stakeholders. Additionally, some organizations or government agencies may require suppliers and partners to use a specific standard as a condition of doing business.



TYPES OF STANDARDS

- ▶ **INTERNATIONAL** - issued by international organizations;
- ▶ **REGIONAL** - issued by groups of countries;
- ▶ **NATIONAL** - issued by a specific country;
- ▶ **INDUSTRIES** - with a scope of the objects and activities inherent in the branch;
- ▶ **FACTORY** - having force within a particular business organization.



INTERNATIONAL STANDARDS

- ▶ ISO International Standardization Organization
- ▶ IEC International Electrotechnical Commission
- ▶ ITU International Telecommunication Union
- ▶ ICC International Code Council
- ▶ ASTM American Society of Testing Materials
- ▶ EUROCODE

INTERNATIONAL STANDARDIZATION ORGANIZATION - ISO

- ▶ Founded in 1947
- ▶ Objective: to develop international standards that are applicable anywhere in the world and to cover as many sectors of social and economic life as possible.
- ▶ Activity: creates standards that often gain legal force through international agreements or national laws.

ISO standards are internationally agreed by experts ·
Quality management standards to help work more
efficiently and reduce product failures.



WORLD LEADER IN STANDARDIZATION



SPECIALIZED INTERNATIONAL COMMITTEES:

- ▶ **COPOLCO** - deals with the development and reflection of consumer policy in creating standards.
- ▶ **DEVKO** - implements activities supporting standardization in developing countries.
- ▶ **REMKO** - develops standards and guidelines for comparative materials.
- ▶ **CASCO** - working in the framework of the development of standards in the field of conformity assessment.

You are probably aware of the basic ISO 9000 family of standards:

ISO 9000: 2000 - Quality Management Systems - Fundamentals and Vocabulary

ISO 9001: 2000 - Quality Management Systems - Requirements

ISO 9004: 2000 - Quality Management Systems - Guidelines for Performance Improvement

INTERNATIONAL ELECTRICAL COMMISSION - IEC

- ▶ Founded in 1906
- ▶ Objective: to develop standards in the field of electrical, electronic and related technologies.
- ▶ Activity: Develops national standards with the participation of over 10,000 specialists in electrical engineering and electronics. It works closely with the International Organization for Standardization (ISO).



INTERNATIONAL STANDARDS COUNCIL - ICC

- ▶ Founded in 1994
- ▶ Objective: to develop a single complex and coherent model of national construction standards.
- ▶ Activity: ensuring the safety of the facilities and development of fire-fighting measures used in the construction of residential, public and industrial buildings.



INTERNATIONAL TELECOMMUNICATIONS UNION - ITU

- ▶ Founded in 1865
- ▶ Objective: to develop standards for the use of radio communication and its strategies.
- ▶ Activity: sets recommendations in the field of telecommunications and radio and regulates international issues regarding radio frequencies.



AMERICAN SOCIETY OF TESTING MATERIALS - ASTM

- ▶ Founded in 1898
- ▶ Objective: to develop standards in the field of railway systems (initial) and other sectoral areas.
- ▶ Activity: develops and issues voluntary standards for materials, products, systems and services.



EUROCODE

- ▶ Founded in 1975
- ▶ Objective: to develop standards in the field of construction in the EU.
- ▶ Activity: develops and adapts national standards for building structures in view of the specifics of a given region/ country.



NATIONAL STANDARDIZATION SYSTEM IN THE REPUBLIC OF BULGARIA

- ▶ In 1932 the first documents of standardization were issued in Bulgaria;
- ▶ In 1938 the Bulgarian Institute of Norms (BIN) was established, similar to DIN - the German Institute of Norms;
- ▶ After the 1950s, Bulgaria became a member of the main international standardization organizations - ISO and IEC;
- ▶ In the early 1960s, the Institute for Standardization, Measures and Measuring Instruments (ISMMI) was established;
- ▶ In 2005, with a new Law on National Standardization, the Bulgarian Institute for Standardization (BDS) was established.



STRUCTURE OF THE NATIONAL STANDARDIZATION SYSTEM

Bulgarian Institute for Standardization

The Chair represents BDS in the government and in international standardization organizations

National Expert Council for Standardization

Experts discuss annual standardization programs

Technical committees for standardization

About 90 independent industry organizations for standardization

THE OBJECTIVES OF THE BULGARIAN INSTITUTE FOR STANDARDIZATION - BDS

- ▶ To support the development of the Bulgarian economy;
- ▶ To harmonize the national standards (BDS) with the European and international standards, thus gradually removing technical barriers to trade;
- ▶ To support legislation regarding the protection and improvement of life quality and human health, safe working conditions, environmental protection and consumer protection.



APPLICATION OF BDS QUALITY STANDARDS

- ▶ Determining the requirements for the quality of the activities performed in the organizations, as well as for the tools for their achievement (raw materials, materials and equipment, technologies, etc.);
- ▶ Development and implementation of a system of standards in accordance with the requirements of the international exchange of goods and services;
- ▶ Determination of a unified system of indicators for the quality and reliability of the manufactured products, methods and means for their testing;
- ▶ Introduction of a unified document management system; determination of uniform terminological norms and designations of the main parameters and indicators through which reporting, control and evaluation of the organizational and technical and economic activities in the enterprises is performed.

BENEFITS OF STANDARDS FOR THE BUSINESS

- ▶ Improving the quality of the product/ service;
- ▶ Attracting new clients; increasing competitiveness;
- ▶ Strengthening trust in business;
- ▶ Reducing the likelihood of errors;
- ▶ Reducing costs;
- ▶ Facilitating exports; increasing the chances of success.
- ▶ Minimize delays, correspondence, etc., resulting from inaccurate or incomplete specification of materials or products



Standards, Quality and Control

For a company/organization to provide quality products/services, it must embrace have good practices in its management, internal processes, and production areas. This should encourage teamwork, professional development, and integrity.

- ▶ The quality of a product may be defined as the sum of a number of related characteristics such as shape, dimension, composition, strength, workmanship, adjustment, finish and colour”.

In particular, all departments must coordinate with each other to ensure smooth flow of operations, fewer downtimes and time to produce a product or deliver service without compromising quality.

- ▶ Control refers to the use of all the ways and means whereby quality standards could be maintained. Control precisely aims at bringing the product up to pre-determined standards by minimizing deviations from established and present standards.

Importance of quality control

Providing quality products or services is crucial for all companies and organizations.

- ▶ Control concerns with verifying whether everything occurs in conformity with the plan adopted, the instructions issued and principles established. It is objected to point out weaknesses and errors in order to rectify them and prevent recurrence.

Quality control goes beyond actual products and services. Because for a business to offer these, its work processes must be well organized, coordinated and executed efficiently. By integrating quality control in the management and work processes, the organization is able to get the maximum productivity at reasonable cost and time.

Quality control is concerned with the control of quality of the product during the process of production. As well as - with controlling those negative variances which ultimately affect the excellence in producing the products or in provision of services.

QUESTIONS for a brief discussion

- ▶ What are the main features of a standard?
- ▶ What can be the benefits for your organization from the adoption of quality standards and from the standardization?



Additional sources of information

- ▶ What makes a quality education? - https://youtu.be/_kZVMsMt86o
- ▶ Fredrick Muyia Nafukho and Machuma H. Muyia (2021) Lifelong Learning and Quality Education for Sustainable Development in Africa in the Handbook of Research on Nurturing Industrial Economy for Africa's Development, DOI: 10.4018/978-1-7998-6471-4.ch002
- ▶ <https://info.qii.ai/blog/quality-control-why-is-it-so-important-now>



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