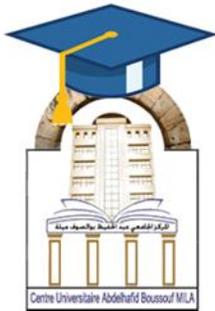


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**Module: Regulation and Standard**

**Chapter 1: Introduction**

- 1.1 Regulations and regulatory texts
- 1.2 Economic development and standardization

Generalities

### **1.1. Regulation**

Regulation, in a broad sense, is a set of guidelines, laws, requirements, rules and regulations, and other legal texts governing a social activity.

It may also simply refer to all the legal and regulatory measures that govern a specific issue.

Regulation is drafted by the competent authorities or by authorized individuals.

The regulation specifies all the rules to be followed regarding the production, processing, distribution, importation, inspection, and labeling of products.

Since regulations are composed of various texts, they can cover a wide range of purposes.

One purpose of regulation may be to protect the consumer from the merchant, the employee from the employer, the challenger from the leader, or the weak from the strong.

## **2. Standardization:**

### **2.1. Technical Standard:**

A document established by consensus and approved by a recognized body, which provides, for common and repeated use, rules, guidelines, or characteristics for activities or their results, ensuring an optimal level of order within a given context.

A standard is a reference document on a given subject. It indicates the state of science, technology, and know-how at the time it is written.

To be considered a standard, the document must meet two conditions:

The means and methods described must be reproducible while using and respecting the conditions indicated;

It must have received recognition from all.

A standard must imperatively:

- List the methods for reproducing a product or a service;
- Be recognized by professionals in the relevant field.

## **2.2. Normative Texts:**

These are documents that provide rules, guidelines, or characteristics for activities or their results, ensuring an optimal level of order within a given context.

## **2.3. Types of Standards:**

There are four types of standards:

**a. Fundamental standards:** These define rules regarding terminology, acronyms, symbols, and metrology (e.g., ISO 31: Quantities and units).

**b. Specification standards:** These indicate the characteristics and performance thresholds of a product or service (example: EN 2076-2: Aerospace series — Ingots and castings of aluminium and magnesium alloys — Technical specification).

**c. Test and analysis standards:** These specify the methods and means for carrying out tests on a product (for example: ISO 6506-1: Metallic materials — Brinell hardness test — Part 1: Test method).

**d. Organizational standards:** These describe the functions and organizational relationships within an entity (example: ISO 9001: Quality management systems and the quality process).

## **2.4. Objectives of Standardization:**

- It is an important economic factor.
- Higher productivity achieved through optimal production.
- Standards provide solutions that ensure a better balance between the state of a technology and economic constraints.
- They are tools for institutions to harmonize agreements between industrial and commercial actors at both the national and international levels.
- They are used as references by public administrations to establish specifications and documents required by the Public Procurement Code.
- Regulations often refer to standards.
- They are used by industrial and commercial companies in all their departments.

Procedure:

A procedure is an imposed sequence of tasks to be carried out. It generally responds to requirements that cannot be challenged by the operator applying them (for example, we speak of a safety procedure or an administrative procedure).

A procedure is a set of steps to follow in order to accomplish a given task. It is a set of activities and resources linked together to transform input elements into output elements.

Product:

The result of a process or a procedure. The result of a technological transformation process.

**2.Economic Development and Standardization:**

In a mature economy whose main source of growth is technological progress, standardization helps push the technological frontier outward, allowing the greatest number of people to benefit from it.

Voluntary standards, much like patents, are a form of knowledge codification. Working in tandem with innovation—particularly in terms of dissemination—standards enable the sharing of innovation as well as general market best practices.

Interoperability of products, increased productivity, market-share gains, and easier cooperation with public research and development institutions: the study confirms the well-recognized benefits of standards for companies of all sizes.

It highlights five key lessons:

1. Enhancing corporate value:

The knowledge capital contributed by individuals involved in standardization work within a company represents a genuine economic asset.

2. Innovation:

Standardization facilitates the dissemination of innovation. It brings out the relevance of a product and serves as a selective tool for products.

3. Transparency and Ethics:

Standards contribute to better compliance with competition rules. They establish the rules of the game and help exclude those who do not abide by them.

4. International:

Standardization promotes the development of international trade and serves as a true passport for companies seeking to export.

5. Quality of Products and Services:

Standardization enables better control of safety issues and provides a genuine guarantee of quality.

From a macroeconomic perspective, standardization clearly contributes to economic growth (25% of GDP growth).

### **Principles of Standardization:**

1. Specification:

To specify means to define the rules for manufacturing and use; in other words, to indicate the characteristics and requirements of products, materials, processes, and procedures. Specification enables the prediction and reproducibility of results. Specifications serve as a reference point that helps ensure quality. Only what is measurable and reproducible can be specified.

2. Unification:

To unify means to define manufacturing rules by indicating the dimensions and fit that allow the different parts of an assembly to be interchangeable.

3. Simplification:

To simplify means to define manufacturing rules that eliminate redundant models and those that are not commonly used.

### **Standardization Associations and Organizations**

A standardization body is an organization whose primary activities consist of establishing and then maintaining standards intended for users outside the organization. Its activities may include the development, coordination, promulgation, revision, modification, reissue, or interpretation of such standards.

Standardization bodies are recognized at both the national and international levels.

They may be created either by states or by international consortia of professionals.

## **Standardization Bodies :**

### **International Standardization Organizations:**

#### **ISO**

**: International Organization for Standardization**

ISO is a worldwide network of national standardization institutes from 156 countries. To date, it has published around 16,500 standards intended for industry, public authorities, and society as a whole.

Nevertheless, ISO does not have the authority to enforce its standards. ISO develops them, with each member participating or not according to its own interests. Once the technical committee responsible for a standard approves it, each country decides whether or not to implement it. In addition, standards are reviewed approximately every five years to maintain, update, or withdraw them depending on their relevance at that time.

For all this work, there are 3,000 technical groups involving around 50,000 experts. For a standard to be adopted, 75% of the voting national bodies must approve it.

#### **IEC: International Electrotechnical Commission**

An international organization active in the field of electrotechnology.

#### **ITU: International Telecommunication Union**

An international organization active in the field of telecommunications.

## **European Standardization Organizations**

#### **CEN: European Committee for Standardization**

CEN, the European Committee for Standardization, is an association that brings together the national standardization bodies of 33 European countries. CEN is active in multiple sectors such as chemistry, construction, consumer products, energy, environment, food, healthcare, occupational health and safety, heating-ventilation-air conditioning, information society, materials, mechanical engineering (including machinery and pressure equipment), metrology, nanotechnology, security and defense, services, transport, and more.

#### **CENELEC: European Committee for Electrotechnical Standardization**

CENELEC is the European committee for electrotechnical standardization and is responsible for standardization in the field of electrotechnics.

### **ETSI: European Telecommunications Standards Institute**

ETSI, the European Telecommunications Standards Institute, produces globally applicable standards for information and communication technologies (ICT), including fixed, mobile, radio, convergent, broadcasting, and internet technologies.

### **National Standardization Organizations:**

AFNOR: The Canadian Standards Association

ANST: American National Standards Institute

NBN: Belgian Standardization Institute

IANOR: Algerian Standardization Institute

**IANOR** is a national standardization body responsible for:

- ✓ Ensuring the development of national standards in coordination with other sectors
- ✓ Identifying national standardization needs
- ✓ Overseeing the implementation of the national standardization plan
- ✓ Ensuring the dissemination of information on standardization
- ✓ Managing the conformity mark for Algerian standards

### **Development of a Standard: The Example of ISO International Standards**

The development of an ISO standard is divided into several stages:

#### 1. Proposal:

A proposal to draft or revise a standard is prepared based on a request from a national body that is a member of ISO, a committee, the ISO Central Secretariat, or an organization in liaison with ISO. This proposal is generally made because a need has been identified by a sector of the industry.

#### 2. Preparation:

This is the drafting phase. Based on the proposal, the technical committee or subcommittee forms a working group. It drafts a preliminary standard called a CD (Committee Draft).

#### 3. Committee

This is the main stage, where comments and observations from national bodies are taken into account. It is a consensus-seeking phase.

Committees have three months to submit comments. Based on the results of the consultation, the committee secretariat can:

- Propose a draft
- Review the draft in a meeting
- Approve the draft and advance it to the next stage

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