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Innovation management — Fundamentals and vocabulary

Management de l'innovation — Principes essentiels et vocabulaire



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 279, *Innovation management*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

0.1 General

An organization's ability to innovate is recognized as a key factor for sustained growth, economic viability, increased well-being and the development of society.

The innovation capabilities of an organization include the ability to understand and respond to changing conditions of its context, to pursue new opportunities and to leverage the knowledge and creativity of people within the organization in collaboration with external interested parties.

This document is intended to help the user by establishing a coherent, consistent and common framework to:

- a) understand the main terms, definitions, concepts and principles of innovation management;
- b) support an organization to establish, implement, maintain and continually improve an innovation management system and other innovation management standards; and
- c) facilitate communication and create awareness of innovation activities internally and across organizations.

[Clause 3](#) specifies the terms and definitions that are necessary to understand innovation management and an innovation management system.

[Clause 4](#) provides the fundamental concepts and innovation management principles, describing why organizations should engage in innovation activities, the main concepts regarding innovation and the principles that an organization should consider as the basis for the effective management of innovation activities as well as the foundation of the innovation management system.

[Annex A](#) presents the concept relationships graphically.

[Annex B](#) presents the relationship between the definitions within this document and those provided by other policy-setting organizations.

0.2 Relationships with other innovation management standards

This document relates to the ISO 56000 family of standards, developed by ISO/TC 279, as follows:

- a) ISO 56002 *Innovation management — Innovation management system — Guidance*, provides guidance for organizations to establish, implement, maintain and continually improve an innovation management system;
- b) ISO 56003 *Innovation management — Tools and methods for innovation partnership — Guidance*, provides guidance for organizations working together to innovate;
- c) ISO TR 56004 *Innovation management assessment — Guidance*, provides guidance for organizations to plan, implement and follow-up on an innovation management assessment;
- d) ISO 56005¹⁾ and subsequent standards provide further guidance on tools and methods to support the implementation of an innovation management system.

1) Under preparation. Stage at the time of publication: ISO/DIS 56005.

Innovation management — Fundamentals and vocabulary

1 Scope

1.1 This document provides the vocabulary, fundamental concepts and principles of innovation management and its systematic implementation. It is applicable to:

- a) organizations implementing an innovation management system or performing innovation management assessments;
- b) organizations that need to improve their ability to effectively manage innovation activities;
- c) users, customers and other relevant interested parties (e.g. suppliers, partners, funding organizations, investors, universities and public authorities) seeking confidence in the innovation capabilities of an organization;
- d) organizations and interested parties seeking to improve communication through a common understanding of the vocabulary used in innovation management;
- e) providers of training in, assessment of, or consultancy for, innovation management and innovation management systems;
- f) developers of innovation management and related standards.

1.2 This document is intended to be applicable to:

- a) all types of organizations, regardless of type, sector, maturity-level or size;
- b) all types of innovations, e.g. product, service, process, model and method, ranging from incremental to radical;
- c) all types of approaches, e.g. internal and open innovation, user-, market-, technology- and design-driven innovation activities.

This document specifies the terms and definitions applicable to all innovation management and innovation management system standards developed by ISO/TC 279.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

3.1 General terms related to innovation

3.1.1

innovation

new or changed *entity* ([3.2.5](#)), realizing or redistributing *value* ([3.7.6](#))

Note 1 to entry: Novelty and value are relative to, and determined by, the perception of the *organization* ([3.2.2](#)) and relevant *interested parties* ([3.2.4](#)).

Note 2 to entry: An innovation can be a product, service, *process* ([3.1.5](#)), model, method, etc.

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Note 3 to entry: Innovation is an outcome. The word “innovation” sometimes refers to activities or processes resulting in, or aiming for, innovation. When “innovation” is used in this sense, it should always be used with some form of qualifier, e.g. “innovation activities”.

Note 4 to entry: For the purpose of statistical measurement, refer to the Oslo Manual 2018, 4th edition, by OECD/Eurostat. See Annex B.2 for a comparison between the definitions of innovation by ISO and the OECD/Eurostat.

[SOURCE: ISO 9000:2015, 3.6.15, modified by using the term “entity” instead of “object” and by replacing Notes 1 and 2 to entry with the new Notes 1 to 4 to entry.]

3.1.1.1

radical innovation breakthrough innovation

innovation (3.1.1) with a high degree of change

Note 1 to entry: Change can relate to the *entity* (3.2.5) or its impact.

Note 2 to entry: Radical innovation is at the other end of the continuum to incremental innovation.

3.1.1.2

disruptive innovation

innovation (3.1.1) initially addressing less demanding needs, displacing established offerings

Note 1 to entry: Compared to established offerings, disruptive innovations are initially simpler offerings with lower *performance* (3.7.1) and they are generally more cost effective, requiring fewer resources and offered at lower cost.

Note 2 to entry: Disruption occurs when a significant ratio of users or customers have adopted the innovation.

Note 3 to entry: Disruptive innovations can create new markets and value networks by addressing new users and deploying new business and value realization models.

3.1.2

management

coordinated activities to direct and control an *organization* (3.2.2)

Note 1 to entry: Management can include establishing *strategies* (3.3.4), *policies* (3.3.2) and *objectives* (3.3.3) and *processes* (3.1.5) to achieve those objectives.

Note 2 to entry: Control can include defining roles, appointing authority, assigning tasks, establishing incentives and rewards, and empowering and engaging people.

Note 3 to entry: The word “management” sometimes refers to people, i.e. a person or group of people with authority and responsibility for the conduct and control of an organization. When “management” is used in this sense, it should always be used with some form of qualifier, e.g. “top management”.

[SOURCE: ISO 9000:2015, 3.3.3, modified by adding “strategies” to Note 1 to entry and by simplifying the text of Note 3 to entry.]

3.1.2.1

innovation management

management (3.1.2) with regard to *innovation* (3.1.1)

Note 1 to entry: Innovation management can include establishing an *innovation vision* (3.3.1.1), *innovation strategy* (3.3.4.1), *innovation policy* (3.3.2.1) and *innovation objectives* (3.3.3.1), and organizational structures and *innovation processes* (3.1.5.1) to achieve those objectives through planning, support, operations, *performance* (3.7.1) *evaluation* (3.8.3) and *improvement* (3.1.7).

3.1.3

system

set of interrelated or interacting elements

[SOURCE: ISO 9000:2015, 3.5.1]

3.1.3.1 management system

set of interrelated or interacting elements of an *organization* (3.2.2) to establish *strategies* (3.3.4), *policies* (3.3.2) and *objectives* (3.3.3) and *processes* (3.1.5) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines, e.g. *innovation management* (3.1.2.1), quality management, financial management, or environmental management.

Note 2 to entry: The management system elements include the organization's structure, roles and responsibilities, planning, support and operation.

Note 3 to entry: The scope of a management system can include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

Note 4 to entry: This constitutes one of the common terms and core definitions of the high level structure for ISO management system standards. The original definition has been modified by adding "strategies" and by adding examples to Note 1 to entry, by replacing "system" with "management system" and adding "support" to Note 2 to entry.

3.1.3.2 innovation system

system (3.1.3) with regard to *innovation* (3.1.1)

Note 1 to entry: An innovation system can be related to a country or nation, e.g. a national innovation system, a region, an industry sector, an entire or part of an *organization* (3.2.2), a cluster or network of organizations, a community of practitioners or any value network or ecosystem of various *interested parties* (3.2.4).

Note 2 to entry: An innovation system can include an *innovation management system* (3.1.3.3).

3.1.3.3 innovation management system

management system (3.1.3.1) with regard to *innovation* (3.1.1)

Note 1 to entry: An innovation management system can be part of a general or integrated management system of an *organization* (3.2.2).

3.1.4 innovation activity

activity with regard to *innovation* (3.1.1)

Note 1 to entry: Innovation activities can be planned or unplanned.

Note 2 to entry: Innovation activities are directly or indirectly aiming for innovation. Not all innovation activities result in innovation.

3.1.5 process

set of interrelated or interacting activities that use inputs to deliver an intended result

Note 1 to entry: This constitutes one of the common terms and core definitions of the high level structure for ISO management system standards. The original definition has been modified to prevent circularity between process and output.

3.1.5.1 innovation process

process (3.1.5) with regard to *innovation* (3.1.1)

Note 1 to entry: Innovation processes are generally planned and carried out under controlled conditions to realize *value* (3.7.6).

Note 2 to entry: Innovation processes can be configured to suit *innovation initiatives* (3.6.1).

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Note 3 to entry: Innovation processes are designed to manage *uncertainty* (3.2.6) with innovation as the intended result. Not all innovation processes result in innovation.

Note 4 to entry: An innovation process consists of several *innovation activities* (3.1.4). Examples of innovation processes are identification of opportunities, creation and validation of concepts, and development and *deployment* (3.6.4) of solutions.

Note 5 to entry: Innovation processes can be implemented within an *organization* (3.2.2) or across organizations in the case of, e.g. collaborative innovation, innovation clusters, value networks, or ecosystems.

3.1.6

invention

new *entity* (3.2.5)

Note 1 to entry: An invention should be new in the sense that it has not existed before.

Note 2 to entry: An invention is created and is generally the result of intellectual work.

Note 3 to entry: An invention can be a product, service, *process* (3.1.5), model, method, etc.

3.1.6.1

patentable invention

invention (3.1.6) eligible for patent protection under the applicable law

3.1.7

improvement

activity to enhance *performance* (3.7.1)

Note 1 to entry: The activity can be recurring or singular.

[SOURCE: ISO 9000:2015, 3.3.1]

3.1.7.1

continual improvement

recurring activity to enhance *performance* (3.7.1)

Note 1 to entry: This constitutes one of the common terms and core definitions of the high level structure for ISO management system standards.

3.2 Terms related to organization

3.2.1

top management

person or group of people who directs and controls an *organization* (3.2.2) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.1.3.1) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

Note 3 to entry: This constitutes one of the common terms and core definitions of the high level structure for ISO management system standards.

3.2.2

organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.3.3)

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution of any size, or part or combination thereof, whether incorporated or not, public, or private, governmental, or non-governmental, national, or international.

Note 2 to entry: This constitutes one of the common terms and core definitions of the high level structure for ISO management system standards. The original definition has been modified by adding more examples to Note 1 to entry.

3.2.3

context of the organization

combination of internal and external issues that can have an effect on an *organization's* (3.2.2) approach to developing and achieving its *objectives* (3.3.3)

Note 1 to entry: In English, this concept is often referred to by other terms such as “business environment”, “organizational environment” or “ecosystem of an organization”.

[SOURCE: ISO 9000:2015, 3.2.2, modified by removing the original Notes 1, 2 and 4 to entry.]

3.2.4

interested party

person or *organization* (3.2.2) that can affect, be affected by, or perceive itself to be affected by a decision or activity

Note 1 to entry: This constitutes one of the common terms and core definitions of the high level structure for ISO management system standards.

3.2.5

entity

anything perceivable or conceivable

EXAMPLE Product, service, *process* (3.1.5), model (e.g. an organizational, business, operational or value realization model), method (e.g. a marketing or management method) or a combination thereof.

Note 1 to entry: Entities can be material (e.g. an engine), immaterial (e.g. a project plan) or imagined (e.g. the future state of the organization).

[SOURCE: ISO 9000:2015, 3.6.1, modified by replacing “object” with “entity” as the preferred term, by adding and removing examples and by replacing “non-material” by “immaterial” in Note 1 to entry.]

3.2.6

uncertainty

state of deficiency of information, understanding, or *knowledge* (3.4.1)

Note 1 to entry: The deficiency can be full or partial.

Note 2 to entry: Uncertainty can be related to the consequences or likelihood of an event, or the characteristics of an *entity* (3.2.5).

Note 3 to entry: Uncertainties can be managed by systematically addressing critical assumptions regarding the consequences, likelihood, or characteristics of events and entities, to gain information, understanding and knowledge.

3.2.7

risk

effect of *uncertainty* (3.2.6)

Note 1 to entry: An effect is a *deviation* (3.8.10) from the expected — positive or negative.

Note 2 to entry: Risk is often characterized by reference to potential “events” (as defined in ISO Guide 73:2009, 3.5.1.3) and “consequences” (as defined in ISO Guide 73:2009, 3.6.1.3) or a combination of these.

Note 3 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated “likelihood” (as defined in ISO Guide 73:2009, 3.6.1.1) of occurrence.

Note 4 to entry: This constitutes one of the common terms and core definitions of the high-level structure for ISO management system standards. The definition has been modified by substituting the original Note 2 to entry with a separate definition of uncertainty.