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Innovation management — Fundamentals and vocabulary

Management de l'innovation — Principes essentiels et vocabulaire

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Foreword

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 279, *Innovation management*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 389, *Innovation Management*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 56000:2020), which has been technically revised. <u>ISO/FDIS 56000</u>

The main changes are as follows:

- new definitions have been added;
- Annex A has been deleted;
- alignment with ISO 56001.

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

The ability of organizations to innovate is recognized as a critical factor for their viability, competitiveness, resilience and renewal, and for the sustainable 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 and 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;
- c) support an organization to utilize other innovation management standards;
- d) facilitate communication and create awareness of innovation activities internally and across organizations.

It can be used by:

- organizations establishing and using an innovation management system or performing innovation management assessments;
- organizations that need to improve their ability to effectively manage innovation activities;
- users, customers and other relevant interested parties seeking confidence in the innovation capabilities of an organization;
- organizations and interested parties seeking to improve communication through a common understanding of the vocabulary used in innovation management;
- providers of education and training in the assessment of or consultancy for innovation management and innovation management systems;
- developers of innovation management and related standards.

<u>Clause 3</u> specifies the terms and definitions that are necessary to understand innovation management and an innovation management system.

<u>Clause 4</u> 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.

<u>Annex A</u> presents the relationship between the definitions within this document and those provided by other policy-setting organizations.

0.2 Relationships with other standards on innovation management

This document relates to standards on innovation management developed by ISO/TC 279, as follows:

- a) ISO 56001 provides requirements for organizations to establish, implement, maintain and continually improve an innovation management system.
- b) ISO 56002 gives guidance on how to establish, implement, maintain and continually improve an innovation management system with a focus on established organizations.

- c) ISO 56003 gives guidance on how to plan, prepare and engage for external innovation partnerships at the level of a project, programme or initiative.
- d) ISO/TR 56004 gives guidance on how to choose, prepare, conduct, measure and improve an innovation management assessment. It does not directly apply to the management system approach in this document.
- e) ISO 56005 gives guidance on how to manage intellectual property throughout the innovation processes and the development of an innovation initiative.
- f) ISO 56006 gives guidance on how to set up and support the strategic intelligence activities of continuous monitoring, intelligence dissemination and document control.
- g) ISO 56007 gives guidance on how to systematically manage opportunities and ideas to realize value from innovation activities and arrive at decisions for development.
- h) ISO 56008 gives guidance on how to develop, define, implement, evaluate and improve the measurements needed to effectively manage individual innovation initiatives.
- i) ISO/TS 56010 provides an understanding of the most essential concepts in innovation management. It is intended to be used as an introduction to the standards on innovation management developed by ISO/TC 279.

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Innovation management — Fundamentals and vocabulary

1 Scope

This document defines terms for and establishes the fundamental concepts and principles of innovation management.

This document is 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, method);
- c) all forms of innovation (e.g. incremental to radical, disruptive);
- d) all types of approaches (e.g. internal and open innovation, user-, market-, design- and technology-driven innovation activities).

2 Normative references

There are no normative references in this document.

3 Terms and definitions to s://standards.iteh.ai)

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at https://www.electropedia.org/

https://standards.iteh.ai/catalog/standards/iso/b60ef95d-dfdf-48bf-8b32-d9ba6d45abe7/iso-fdis-560000

3.1 Terms related to innovation

3.1.1

innovation

new or changed *entity* (3.2.11), realizing or redistributing *value* (3.7.7)

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* (3.2.6).

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

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 by OECD/Eurostat. [12] See Clause A.2 for a comparison between the definitions of innovation in this document and OECD/Eurostat.

[SOURCE: ISO 9000:2015, 3.6.15, modified — "entity" replaced "object". Notes 1 and 2 to entry replaced by new Notes 1 to 4 to entry.]

3.1.1.1

radical innovation

breakthrough innovation

innovation (3.1.1) with a significant degree of change

Note 1 to entry: Change can relate to the *entity* (3.2.11) 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* (3.2.10) 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 *policies* (3.3.3), *strategies* (3.3.5) and *objectives* (3.3.4), as well as *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 — "strategies" added to Note 1 to entry. Note 2 to entry added. Note 3 to entry simplified.]

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innovation management

management (3.1.2) with regard to innovation (3.1.1)

Note 1 to entry: Innovation management can include establishing an *innovation policy* ($\underline{3.3.3.1}$), *innovation vision* ($\underline{3.3.2.1}$), *innovation strategy* ($\underline{3.3.5.1}$), and *innovation objectives* ($\underline{3.3.4.1}$), and organizational structures and *innovation processes* ($\underline{3.1.5.1}$) to achieve those objectives through planning, support, operations, *performance* ($\underline{3.7.1}$) *evaluation* ($\underline{3.8.3}$) and *improvement* ($\underline{3.1.7}$).

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 *policies* (3.3.3) and *objectives* (3.3.4), as well as *processes* (3.1.5) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

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

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).

3.1.3.4

innovation ecosystem

system (3.1.3) of interdependent persons or *organizations* (3.2.2) collectively or collaboratively developing or enabling *innovation* (3.1.1)

Note 1 to entry: Ecosystem participants can include private and public organizations.

Note 2 to entry: The scope of an innovation ecosystem can be defined in terms of a platform, set of technologies, knowledge (3.4.1) area, set of skills (3.4.4), sector, community or geographic area.

Note 3 to entry: An innovation ecosystem can range from being an arbitrary group of participants to an orchestrated, multi-party community based on collaborative *innovation partnerships* (3.6.13).

3.1.4

innovation activity

activity with regard to innovation (3.1.1)

Note 1 to entry: Innovation activities can be planned or unplanned and are normally conducted in the context of uncertainty.

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 uses or transforms inputs to deliver a result

Note 1 to entry: Whether the result of a process is called an output, a product or a service depends on the context of the reference.

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* (3.7.7).

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

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* (3.6.3), creation and *validation* (3.6.9) of *concepts* (3.6.6), and development and *deployment* (3.6.11) of *solutions* (3.6.10).

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

3.1.6

invention

new solution (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.

Note 4 to entry: An invention is normally in response to a technical problem.

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)

3.2 Terms related to organization Et and ards

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.

3.2.2

organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.3.4)

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, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: If the organization is part of a larger entity, the term "organization" refers only to the part of the larger entity that is within the scope of the *innovation management system* (3.1.3.3).

Note 3 to entry: Organizational functions can include, for example, research and development, human resources, finance, sales, marketing and operations.

3.2.3

culture

shared pattern of beliefs, values and behaviours of an organization (3.2.2) or community over time

3.2.4

work environment

set of conditions under which work is performed

[SOURCE: ISO 9000:2015, 3.5.5, modified — Note 1 to entry deleted.]

3.2.5

context of the organization

business environment

organizational environment

ecosystem of an 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* (3.3.4)

[SOURCE: ISO 9000:2015, 3.2.2, modified —Notes to entry deleted. Admitted terms added.]

3.2.6

interested party

stakeholder

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: Interested parties can include, for example, users, customers, suppliers, partners, innovation ecosystems, funding organizations, investors, universities and public authorities.

3.2.7

innovator

person who engages in *innovation activities* (3.1.4)

Note 1 to entry: An innovator can be an *entrepreneur* (3.2.8) or an *intrapreneur* (3.2.9), or both.

3.2.8

entrepreneur

innovator (3.2.7) that assumes risks (3.2.13) and gains benefits from pursuing new opportunities (3.6.3)

Note 1 to entry: An entrepreneur can assume all or part of the risks and gain all or part of the benefits.

3.2.9

innovator (3.2.7) within an organization (3.2.2)

Note 1 to entry: An intrapreneur can be limited by the organization but also benefit from its resources and riskwillingness.

3.2.10

customer

person or *organization* (3.2.2) that can or does buy or acquire a product or service that is intended for or required by this person or organization or another user

Note 1 to entry: A customer can be internal or external to the organization.

Note 2 to entry: A customer can be different from the user who interacts with a product or service.

Note 3 to entry: A customer can be a client, end-user, retailer, beneficiary or purchaser.

[SOURCE: ISO 9000:2015, 3.2.4, modified

3.2.11

entity

anything perceivable or conceivable

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 — "entity" replaced "object" as the preferred term. Examples modified. "immaterial" replaced by "non-material" in Note 1 to entry.]

3.2.12

uncertainty

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

Note 1 to entry: Uncertainty can be related to the consequences or likelihood of an event, or the characteristics of an *entity* (3.2.11).

Note 2 to entry: Uncertainties can be managed by systematically addressing assumptions regarding the consequences, likelihood or characteristics of events and entities, to gain information, understanding and knowledge.

3.2.13

risk

effect of uncertainty (3.2.12)

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

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential events and consequences, or a combination of these.

Note 4 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 of occurrence.

3.2.14

antifragile

ability to gain from stressors, uncertainty (3.2.12) and risk (3.2.13)

Note 1 to entry: Stressors can be shocks, failures, disruptions, emergencies, crises, etc.

Note 2 to entry: An antifragile *entity* (3.2.11) can thrive and/or evolve from unexpected stressors, take advantage of uncertainty and positively assume risk.

3.2.15

outsource

make an arrangement where an external *organization* (3.2.2) performs part of an organization's function or *process* (3.1.5)

Note 1 to entry: An external organization is outside the scope of the *management system* (3.1.3.1), although the outsourced function or process is within the scope.

3.2.16

documented information

information required to be controlled and maintained by an *organization* (3.2.2) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media and from any source.

Note 2 to entry: Documented information can refer to:

- the management system (3.1.3.1), including related processes (3.1.5);
- information created in order for the organization to operate (documentation);
- evidence of results achieved (records).

3.3 Terms related to objective

3.3.1

innovation intent

declared aspiration with regard to innovation (3.1.1)

EXAMPLE Digital transformation, organizational renewal, sustainable operations, healthy work environment, circular material flows, attractive brand.