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Innovation management — Illustrative examples of ISO 56000

Management de l'innovation — Exemples illustratifs de l'ISO 56000

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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*.

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 main purpose of this document is to provide easy to understand descriptions of a limited selection of the key terms and definitions found in ISO 56000. This document offers simple, fictional examples, which are intended to illustrate the general concepts which underpin ISO 56000.

This document is designed to be of benefit to parties who are interested in managing innovation, but who are not yet fully familiar with the working definitions and concepts presented in the ISO 56000 family of standards related to innovation management. It is not intended to serve as a reference on how to manage innovation, rather it is a guide for the understanding, communication, dissemination, and adoption of innovation management standards.

0.2 Relationships with other innovation management standards

The following are documents developed by ISO/TC 279 in the ISO 56000 family of standards:

— ISO 56000 provides vocabulary, fundamental concepts and principles of innovation management and its systematic implementation;

— ISO 56002 provides guidance for organizations to establish, implement, maintain and continually improve an innovation management system;

— ISO 56003 provides guidance for organizations working together to innovate;

— ISO/TR 56004 provides guidance for organizations to plan, implement and follow-up on an innovation management assessment;

— ISO 56005 supports the role of intellectual property (IP) within innovation management;

— ISO 56006 provides guidelines for supporting strategic intelligence within innovation management.

Innovation management — Illustrative examples of ISO 56000

1 Scope

This document provides descriptions, context, and examples for selected concepts of innovation management defined in ISO 56000, chosen to provide understanding of the most essential concepts in innovation management.

This document does not explain "how to" innovate or manage innovation, but it enables understanding of the language and concepts used in communication related to innovation and innovation management. Descriptions, examples, and infographics are used throughout this document, both to illustrate concepts and to differentiate between concepts. The examples have been chosen from a variety of industries and sectors with a focus on different types of innovations and are non-exhaustive.

The document is intended to be used by:

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 interested parties (internal and external) seeking to ground and improve communication through a common understanding of the vocabulary used in innovation management;

d) providers of training in, assessment of, or consultancy for, innovation management and innovation management systems;

e) developers of innovation management and related standards.

This document uses examples to make concepts more comprehensible and is intended to be used as:

— An introduction: Interested parties can be onboarded to the documents published as part of the ISO 56000 family of standards, bridging the gaps between alternative views, beliefs, and conceptions of innovation and the science and practice of innovation management.

— A guideline: This document presents key technical definitions and concepts in a descriptive format suited to broad and non-technical audiences and can be used to provide basic understanding to organizations, academia, media, and other interested parties as the agreed upon standards become available to the world.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 56000:2020, *Innovation management — Fundamentals and vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 56000 apply.

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 http://www.electropedia.org/

4 Descriptions of vocabulary and illustrative examples

4.1 General

This document expands on the following selected vocabulary defined in ISO 56000 with the intent of providing descriptions that combine the notes to entry with the definitions, context, and examples:

— innovation;

— innovation activity;

— innovation process;

— innovation management;

— innovation management system.

Further descriptions and examples for each of the above can be found in the next subclauses, and in Annex A, including examples of product, process, and service innovations.

The examples and use cases included in this document are fictitious and are intended to give the reader context for the vocabulary and the attributes used to determine the significance of an innovation. The illustrative examples, in the form of case studies, have been chosen in such a manner as to show the varying degrees of the three attributes used to determine the significance of an innovation (value, change/newness, impact) with the understanding that the degrees are relative to and determined by the organization and other interested parties. The examples are not intended to be exhaustive.

4.2 Brief description of terms

— An "innovation" is a new or changed product, process, or service that creates value. It is not an activity that creates the outcome, it is the outcome itself.

— An "innovation activity" is an activity that generally contributes to innovation.

— An "innovation process" is a combination or sequence of activities that aims to deliver an innovation.

— "innovation management" is the structuring and carrying out of innovation processes and business processes designed to lead to innovation.

  — "innovation initiative" see example in A.2.4.3 Case Study 1

  — "innovation portfolio" see example in A.5.4.4 Case Study 4

— An "innovation management system" is the way an organization has organized policies, strategies, processes and various other interacting elements and interrelated elements to accomplish its innovation objectives, including delivering innovation, with greater predictability, and aiming for the realization of value.

4.3 Innovation

4.3.1 Description of innovation

Whether changed or new, an innovation is an outcome that adds value through its adoption, implementation, commercialization, and/or use. An innovation can be a product, service, process, model, method, or any other outcome, but must create value in order to be considered an innovation.

The significance of an innovation is often determined by the intersection of some combination or permutation of the degrees of value, change/newness, and impact:

— Degree of value

The degree of value can be either financial or non-financial, or both, and can affect individuals, groups, organizations, or societies.

EXAMPLE A process for creating and/or delivering more value-producing advertising, marketing, and/or logistics channels can be considered an innovation. The introduction of that type of innovation can result in loss of value for another organization.

— Degree of change/newness

The degree of change/newness is generally considered to exist on a continuum ranging from incremental to radical/breakthrough. The degree of change/newness can be also explicitly expressed as the degree of shift from the current method of achieving an outcome to the new method.

EXAMPLE Innovations that an organization might create can range from an additional point of configuration for a current solution (incremental change), to having the option for a fully customizable solution, to the offering of an entirely new solution (radical/breakthrough change) for improving customers'/users' experiences.

— Degree of impact

The degree of impact is the effect an innovation can have on any or all interested parties. It may be expressed as the outcomes of the shift generated by an innovation. Impact can be (e.g. direct/indirect, short/long term, positive/negative, local/global).

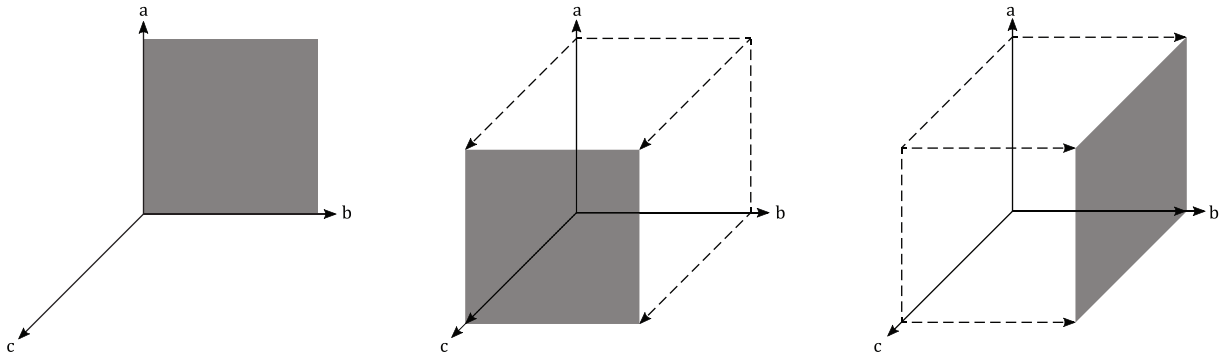
EXAMPLE When large organizations close or expand due to a disruptive innovation gaining significant market share (i.e. a simpler offering that has been adopted by a significant number of users), economic development agencies can calculate the ripple effect(s) on the jobs lost or created, but can struggle to calculate the full, long-term, complex, or more indirect impacts on society or the environment.

4.3.2 Forms of innovation

Three commonly referred to forms of innovation as defined in ISO 56000 are incremental, radical/breakthrough, and disruptive, described below and illustrated in Figure 1.

"Incremental innovation" and "radical/breakthrough innovation" relate to the degree of change introduced by the innovation as compared to prior art. As illustrated in the previous examples, incremental and radical/breakthrough innovation form two ends of a continuum, with incremental representing the least amount of change or newness and radical/breakthrough representing the most amount of change or newness.

"Disruptive innovation" relates to the impact of the innovation. Innovations that address less demanding needs by pursuing cost efficiency through more banal offerings become disruptive when they are adopted by a significant number of users as a replacement for a previously established offering.



a) Incremental innovation **b) Breakthrough/radical innovation** **c) Disruptive innovation**

Key

a Degree of value.

b Degree of impact.

c Degree of change/newness.

NOTE The values attributed in these examples are arbitrary and for illustration purposes only. The forms of innovations are represented by planes in grey colour.

Figure 1 — Forms of innovation

4.4 Description of innovation activities

Innovation activities are activities which aim to generate or develop innovations. They can be highly diverse - ranging from isolated or unpremeditated events, such as accidental discoveries - to being part of structured and planned processes, such as research and development activities. Innovation activities can be combined or reiterated and can, but do not always, result in successful innovations.

Examples of innovation activities can include, but are not limited to, research and development (R&D), needs assessments, ideation or creativity sessions, simulation and prototyping, testing, documentation, monitoring, evaluation, and commercialization.

4.5 Description of innovation processes

An innovation process consists of any sequence of activities that aims to create innovations and thus realizing value, however not all innovation processes will result in innovations. Innovation processes are often designed to manage uncertainty, and as such are generally flexible, non-linear, iterative, and characterized by experimentation, learning, and tolerance of failure. Examples of innovation processes include, but are not limited to, identifying opportunities, generating concepts, and identifying and developing solutions.

In an innovation process:

— the order of the activities can be important,

— the activities need not be sequential, for example, they can be parallel, and

— the relation and interaction between the different activities in the process can be important.

4.6 Description of innovation management

Innovation management involves defining, planning, integrating, and executing the innovation activities and/or processes necessary to achieve innovation(s), which includes reducing risks, managing uncertainty, and removing barriers for innovation initiatives and innovators (e.g. developing policies

and opening access and managing the trade-offs between optimizing performance and exploring new opportunities).

Innovation management also includes elements of leadership, such as establishing an innovation vision and strategy, and wider organizational elements such as fostering a culture supportive of innovation through social interaction and cooperation among all participants, which can help create an enabling environment for innovation.

In addition, innovation management helps to ensure the alignment of innovation activities with the strategic direction of either the organization or society, or both, which includes ensuring that innovation activities are based on an understanding of explicit, implicit, latent or nascent needs and expectations.

4.7 Description of innovation management system

An innovation management system is the combination of strategies, policies, objectives, and processes that affect an organization's ability to accomplish its innovation objectives. It can include the organization's context, innovation culture, leadership, support, operations, planning, performance evaluations, and improvement mechanisms. An innovation management system typically has other peer systems, such as a production system, supply chain system, and human resources system.

An innovation management system is the structure of an organization to achieve its innovation ambitions and addresses the presence of related uncertainty, while aiming for the realization of value.

4.8 Distinguishing innovation from other related concepts

The following concepts, from ISO 56000, are often related to innovation, but are sometimes used incorrectly, interchangeably with the term innovation:

"Creativity" and innovation are related, but they are distinct concepts. Creativity denotes an ability and it is generally considered to be the act of conceiving or imagining something original. Creativity can lead to an innovation, but not always (see ISO 56000:2020, 4.2.3.3).

"Invention" is simply something new that was created, and which does not need to create value to be considered an invention. An innovation, on the other hand, must create value, so not all inventions become innovations. Only when an invention is adopted and implemented in a way that creates value can it also be called an innovation. An invention can be protected by intellectual property rights (see ISO 56000:2020, 4.2.3.2).

"Intellectual property" (IP) is an intangible asset. IP can be, among other things, the inventions, trademarks, trade secrets or know-how created in innovation activities (see ISO 56000:2020 3.5.2).

"Intellectual property rights" (IPR) are legal rights that apply to IP under statute or common law. Non-exhaustive examples of IP rights include patents and utility models, trademarks, industrial designs, database rights, performance rights and copyright. Not all IP is protected by IPR (see ISO 56000:2020, 3.5.3).

"Research and development" (R&D) usually refers to a set of activities that can be part of an innovation process. It is also often used to describe the function or an organization that performs those activities. R&D activities are conducted with the intent of creating new knowledge and inventions. When successfully implemented or adopted in the market, these creations can become innovations. Regardless of the outcome, the activities would still be considered R&D activities (see ISO 56000:2020, 4.2.3.4 and 4.2.3.5).