
Upravljanje inovacij - 3. del: Inovativno razmišljanje

Innovation management - Part 3: Innovation thinking

Innovationsmanagement - integriertes Design-Management

Management de l'innovation - Partie 3 : Réflexion axée sur l'innovation

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The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 16555-3:2014) has been prepared by Technical Committee CEN/TC 389 “Innovation Management”, the secretariat of which is held by AENOR.

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This document is not intended for the purpose of certification.

The CEN/TS 16555 series consists of the following parts with the general title *Innovation management*:

- *Part 1: Innovation Management System;*
- *Part 2: Strategic intelligence management;*
- *Part 3: Innovation thinking;*
- *Part 4: Intellectual property management;*
- *Part 5: Collaboration management;*
- *Part 6: Creativity management;*
- *Part 7: Innovation management assessment.*

Part 7 is in preparation.

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CEN/TS 16555-3:2014 (E)**Introduction**

Innovation thinking is a structured approach whereby information, insights and experiences are sought out and employed for the purpose of maximizing opportunities and solving problems which deliver desirable outcomes to the marketplace. This approach can complement other methods used in innovation.

It is a context sensitive approach that develops an evolving knowledge base, which is then used to elicit and sustain change that should have effective and enduring economic, social and/or ecological value according to organizational purpose.

Those who adopt innovation thinking as part of their working dynamic should develop adaptive advantages that will help them become more agile in the marketplace and create more value for their external and internal stakeholders. Case studies are included in Annex A.

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1 Scope

This Technical Specification sets out guidance for an approach to innovation thinking. Innovation thinking can be used at all levels within the organization.

This part provides guidance on how to integrate the core values of innovation thinking into any organization. It provides an approach to balancing the risks and the business viability appropriate to the selected opportunity or problem. It provides top management with an approach for the evaluation of possible outcomes and the determination of the “best fit” for the organization's current strategy.

It is suitable for all types and sizes of organizations including SMEs and is intended for broad application. However, those who are responsible for implementing and managing innovation within such organizations may find this document particularly useful.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CEN/TS 16555-1, *Innovation Management — Part 1: Innovation Management System*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

innovation thinking

approach to finding opportunities and solving problems which delivers a superior or more desirable outcome with respect to the current offerings

4 Innovation thinking

4.1 General

Innovation thinking is an iterative and interactive approach requiring engagement with a variety of different internal and external types of players. It uses rapid and open learning processes to quickly create a variety of options as well as to identify and eliminate what is dysfunctional early on. It uses both the brain's creative and logical capabilities to explore alternative solutions and combinations with the goal to create a better outcome.

Innovation thinking is derived from the design discipline, design thinking which was traditionally focused on product design. This is a methodology that is built around gaining an in-depth understanding of human needs and the outcomes they require. It involves a creative process of generating possible solutions and iterative testing of these proposed solutions. These actions are linked to available technology and the practical constraints of business. The broader approach of innovation thinking brings the product focused design thinking approach to a wider application to include all forms of innovation: product (services and goods, tangible and intangible), process (production methods, procedures and operation layouts), organizational (governance schemes and work relations), and commercial (marketing, distribution systems and business models). In this application it is holistic and limitless.

The innovation process begins when it becomes clear that a more desirable outcome is possible, but the nature of that outcome is uncertain, the route to a solution is unclear, and the risk of failure to reach a satisfactory objective is part of the process. Thus, when a management task involves risk and uncertainty, the innovation thinking approach has much to offer.

CEN/TS 16555-3:2014 (E)

This approach requires a deep understanding of the specific problem or opportunity, which may be obtained by breaking these down into their core elements. It is also necessary to gain a thorough understanding of all potential user types. Further stages involve integrating and applying user needs around the appropriate technologies and commercial constraints, thus developing outcomes that create value for the targeted users. The innovation thinking approach can be used to support an Innovation Management System, see CEN/TS 16555-1:2013, 11.3.

All innovation carries risks, but tried and tested design methods control that risk by taking informed decisions at a relatively early stage before major commitments to investment are made. This design derived approach is therefore an extremely cost effective process for meeting the needs of the customer (however defined), within the resource constraints of the organization.

See Annex A for case study examples.

4.2 Key drivers

The key drivers of innovation thinking are context, people, enablers and constraints. It is the interaction between these four key drivers and their relative strengths that creates the innovation thinking approach appropriate to the organization.

The key drivers are:

- Context: what is the opportunity or problem setting that the organization is seeking to find and create a new and better outcome? See also CEN/TS 16555-1:2013, Clause 4 for more information on context of the organization.
- People: markets, work force, suppliers, who has the problem and who will benefit or be affected by the solution (i.e. those who directly value the innovation, e.g. users / clients / customers / markets / sectors, work force, suppliers and partners)? See also CEN/TS 16555-1:2013, Clause 4.
- Enablers: who/what will make this opportunity come to fruition. (i.e. “positive” conditions for change, e.g. what behaviours, characteristics, values, approaches, skills are required to make the impossible possible)?
- Constraints: who/what are the barriers that will hinder this opportunity and need to be explored and overcome (i.e. “negative” conditions for change or the realities of the business, e.g. commercial viability, markets, technologies and desirability)?

4.3 Supportive behaviours and competencies

4.3.1 General

To be successful, an innovation thinking environment should develop certain behaviours and competencies which support and shape the approach to discovering, designing, and developing the essential and desired outcomes for the given opportunity. They enable a “user focused” approach, to ensure that the organization gains a deep understanding of the key drivers in the innovation thinking landscape.

4.3.2 Behaviours

The following behaviours provide an environment in which innovation thinking can thrive and which can support the development of suitable outcomes:

- Supportive understanding, demonstrated through leadership, authorization and empowerment of people, providing them with the space, time, support and skill sets which are needed to creatively explore new ways of doing things. A facilitating framework is also necessary, that acknowledges and rewards both success and failure respectively.

- Encouragement of an open mind-set, in order to explore the benefits of collaborations with multiple other experts and different types of organizations.
- Encouragement of an environment where risks and uncertainties are the norm and failures are accepted as feedback for rapid learning.
- Observation and listening skills, in order to gain an in-depth understanding of the outcomes which are desired. Appropriate question sets need to be developed, together with an understanding of how to pose these questions. It is also necessary to observe how people use and do things in the context of the task and outcomes which are to be achieved.
- Fast visualizations, quick mock-ups, prototyping of ideas and potential solutions, at the most basic level, in order to provide the team with the freedom, space and time, to use their imagination, supported appropriately.
- Experimentation, numerous iterations and variations which are needed to develop the team's thinking and to evolve solutions that best match the problem or opportunity identified.
- Pre-launch testing in order to determine market timing and the robustness of the proposed solution.

4.3.3 Competencies

The following are competencies that should to be developed and nurtured at all levels within any organization which seeks to promote a structured approach to innovation thinking:

- understanding and empathizing with all types of users and their needs;
- identifying and synthesizing their problems and opportunities;
- multidisciplinary creative thinking, both with internal and external partners.

NOTE CEN/TS 16555-5 provides further guidance on collaboration.

5 Innovation thinking – steps involved

5.1 General

There are a number of steps to implementing innovation thinking, as shown in Figure 1.

While each step should be regarded as having an input from the previous step, reference is often required to other preceding steps, as this is an iterative process, designed to grow the knowledge base and hence develop an appropriate and sustainable business outcome.