
**Innovation management — Tools and
methods for managing opportunities
and ideas — Guidance**

*Management de l'innovation — Outils et méthodes de management
des opportunités et des idées — Recommandations*

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ISO 56007:2023

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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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*, 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).

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 to innovate is central to any organization's growth, viability, and impact within society. Managing opportunities and ideas is central to the innovation management process. This document focuses on early-stage opportunities and ideas in the front end of innovation; tools and methods for identifying opportunities, creating innovation concepts, and validating innovation concepts to be considered for development and deployment. It does not address ideas that result from development and deployment activities.

Any organization wishing to innovate needs to bring good opportunities and ideas through to realization to provide a stream of potential innovations. This document gives guidelines for the activities from intention through to selection for development.

0.2 Guidance

This document gives guidelines to organizations and individuals to realize value from their opportunities and ideas at strategic and operational levels.

Opportunities and ideas can come from anywhere, e.g. top down, bottom up, inside or outside the organization. They can span the continuum of innovation types from incremental to radical. Organizations need to manage their efforts at different levels of sophistication and complexity, depending on their size, maturity, context, and ambition.

This document supports these different levels according to type of organization and innovation ambitions. It also can help users select and adapt methods and tools that are appropriate to their specific circumstances.

Types of organizations and users of this document include, for example:

- a) established, large organizations (for profit and social value) desiring to be more systematic about their idea and opportunity management activities;
- b) small and medium enterprises (SMEs) looking to bring more structure to their innovation activities;
- c) start-ups/venture capitalists considering how to evaluate opportunities and ideas more systematically;
- d) non-profit organizations seeking to leverage innovation activities to build a more innovative organization for the benefit of their interested parties;
- e) non-governmental organizations (NGOs) aiming to transform innovation ecosystems through more effective and efficient innovation activities;
- f) individuals inside or outside of an organization looking for a framework for managing opportunities and ideas;
- g) universities and research institutions exploring new ways to create value by addressing the needs and expectations of the organization and their interested parties.

0.3 Front end of innovation

[Figure 1](#) presents front end innovation activities in relation to innovation processes as described in ISO 56002. [Figure 1](#) emphasizes the iterative nature of managing opportunities and ideas, with learning cycles that reduce uncertainty and lead toward realizing value.

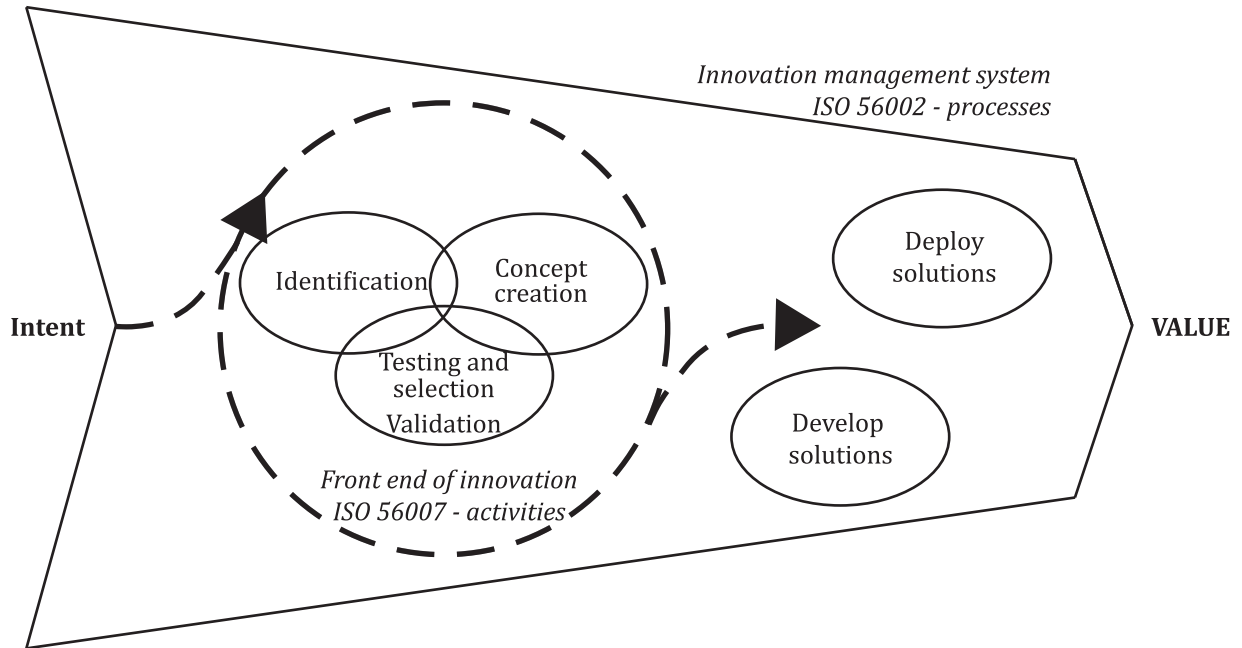


Figure 1 — Front end innovation activities in relation to ISO 56002 innovation processes

The main clauses of this document provide information and guidance as follows:

- [Clause 4](#) focuses on preparing for managing opportunities and ideas, including key terms of reference, fundamental questions to ask, the progression of ideas, innovation drivers to consider, and different methods that can apply;
- [Clause 5](#) focuses on people and organizational considerations and how they can affect managing opportunities and ideas;
- [Clause 6](#) details opportunity and idea management activities and their interrelationships through identification, concept creation and validation (further refined into testing and selection);
- [Clause 7](#) covers review and evaluation of front-end innovation activities and efforts.

0.4 Relationship to other innovation management standards

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

- a) ISO 56000 for understanding the main terms, definitions, concepts, and principles of innovation management.
- b) ISO 56002 for establishing, implementing, maintaining, and continually improving an innovation management system.
- c) ISO 56003 for working together to innovate through innovation partnerships.
- d) ISO/TR 56004 for planning, implementing, and acting upon the results of an innovation management assessment.
- e) ISO 56005 for establishing and implementing an intellectual property (IP) framework, strategy, and tools for IP management activities.
- f) ISO 56006 for developing and providing intelligence to enable strategically driven innovation decisions.

- g) ISO 56008¹⁾ for planning, designing, and selecting indicators and metrics to measure innovation activities and portfolios.

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Innovation management — Tools and methods for managing opportunities and ideas — Guidance

1 Scope

This document provides guidance on managing opportunities and ideas by:

- explaining the reasons for and the value of managing ideas effectively;
- describing how to prepare for front end innovation activities;
- addressing people and organization issues, including innovation leadership, culture and strategy;
- detailing innovation activities and their interrelationships;
- outlining activity and process evaluation considerations that are important for innovation success.

A sub-set of processes are addressed as described in ISO 56002, i.e. identifying opportunities, creating concepts, and validating them. The activities within these processes, when managed together, bring forward viable innovation concepts for development. Developing these innovation concepts into solutions and deploying these solutions is addressed by ISO 56002 and is outside the scope of this guidance document.

This document provides guidance for any innovation type along the continuum from incremental to radical innovation, as defined in ISO 56000.

This guidance is intended for:

- any user involved in innovation, whether for an organization or individual;
- any organization type or scale;
- any understanding of value creation and realization, whether for profit, social impact, changes in strategic direction, or any other purpose.

This document can help organizations to systematically manage their opportunities and ideas to realize greater value from front end innovation activities to arrive at go/no-go decisions for development. There is no one method or set of tools for use in all situations. Choice is impacted by a range of related considerations to be addressed in this document.

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, *Innovation management — Fundamentals and vocabulary*

3 Terms and definitions

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

NOTE For those definitions that are not included in ISO 56000, they will be included in the next version of ISO 56000.

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/>

4 Preparing for managing opportunities and ideas

4.1 General

To prepare successfully for managing opportunities and ideas, organizations should:

- align on their key terms to create a common language;
- ask the right questions at the right time to enable learning;
- address organizational considerations that are specific to innovation activities;
- gain a clear view of opportunity and idea progression;
- understand how different methods can be applied.

Each of these considerations refers in one way or another to all or parts of three fundamental processes described in ISO 56002: identify opportunities, create concepts and validate concepts.

The progression innovators seek is to learn, iteratively, to reduce uncertainty in order to achieve sufficient clarity to make selection decisions as described in 4.3. The intended outcome of front-end innovation activities is to deliver validated innovation concepts that are ready for development. [Clause 6](#) provides advice on the activities that enable this intended outcome. [Annex A](#) provides an overview of related methods.

In this document, validation is further divided into testing and selection. Testing covers all the activities that contribute to reducing uncertainties to achieve an outcome as described in 4.2 and 4.3. Selection covers the decision-making activities that are necessary to identify opportunities or ideas that deserve further attention and ultimately become innovation concepts suitable for development. Selection may also lead to rework or archiving of opportunities, ideas and innovation concepts that are not meeting selection criteria.

4.2 Key terms

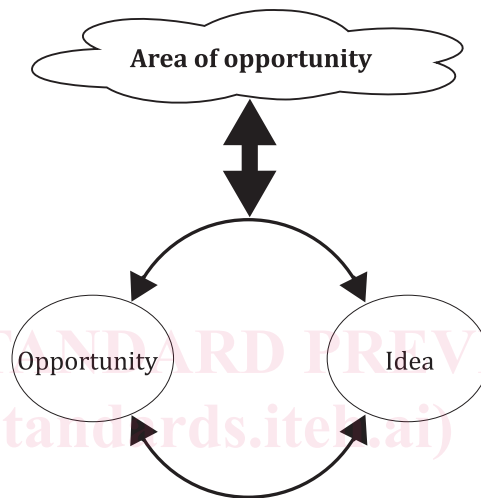
The organization should consider the following descriptions of terms to prepare for managing opportunities and ideas:

- whereas "innovation management" is a process for managing the entire innovation lifecycle, this document focuses only on front end innovation activities to prepare innovation concepts for development;
- an "area of opportunity" can address a current strategy or a strategic intent or can emerge due to external and internal changes. It has the potential to sustain, grow or renew an organization;
- an "opportunity" emerges from a set of circumstances that can lead to a potential innovation. It can also lead to ideas or opportunity areas;
- an "idea" can be inspired spontaneously by an opportunity or an area of opportunity. It can address a stated or unstated issue or problem to be solved, need or desire. It can emerge through serendipity or by a direct challenge or brief. It can also link to opportunities or opportunity areas;
- an "innovation concept" is the result of evolving and refining either opportunities or ideas for development, or both;

- an "uncertainty" (as defined in ISO 56000) is a lack of knowledge or understanding across a wide range of considerations that increases the unpredictability of a desired/potential innovation;
- a "risk" (as defined in ISO 56000) is a deviation from the expected arising from uncertainty or an event;
- "value" (as defined in ISO 56000) is the benefit that can be achieved by satisfying the perceived needs and expectations of organizations and interested parties.

In the context of an organization developing an innovation management system, ISO 56002 advises working from "areas of opportunity" to "opportunities" and on to "ideas". In other contexts, such as in a start-up, ideas can come before opportunities or even areas of opportunity.

[Figure 2](#) below represents the relationship of an area of opportunity, opportunity and idea.



<http://www.iso.org/standard/72734>
Figure 2 — Relationship of area of opportunity, opportunity, and idea
[d2734d21c4ba/iso-56007-2023](https://www.iso.org/standard/72734)

The organization should treat either opportunities or ideas, or both as the starting points or inputs for front end innovation. These inputs are used to create and validate innovation concepts, which can then be developed and deployed to realize value. Typically, an opportunity is more likely to be the starting point for a radical or breakthrough innovation as more exploration is required to learn about the potential solution. An idea is more likely to be the starting point for an incremental innovation as more is known about the potential solution. Opportunities and ideas can have low, medium, or high levels of uncertainty across different categories based on their maturity and complexity. [Annex B](#) provides descriptions of methods and tools for managing uncertainty in these contexts.

Drivers of value can include pursuing new strategic ambitions, identifying specific areas for exploration, addressing organizational challenges, developing new products, services, or operating models, and/or building upon insights about interested party behaviour. An area of opportunity is an exploratory market, domain, or strategic focus area in which to identify an opportunity or idea. It can also be viewed as a theme.

4.3 Uncertainty

4.3.1 General

Uncertainty arises from a state of deficiency of information, understanding or knowledge that increases the unpredictability of a desired or potential outcome. Since front end innovation is about exploring new areas of opportunity, any new opportunity or idea faces different levels of uncertainty expressed as assumptions, questions, unknowns, or potential problems that need to be resolved. These uncertainties address factors, e.g. market need, technological feasibility, social acceptance, maturity of the idea, strategic, resource or business model fit, interested party expectations, environmental responsibility,

estimated cost or time to develop. The focus is on what needs to be learned across a range of factors to reduce uncertainty.

4.3.2 Uncertainties versus risks

Even though they are often confused, uncertainties and risks are not the same. Risks can be analysed and assigned a probability of occurrence. Whereas risks can be mitigated and hedged against based on probability, uncertainties can only be reduced through further investigation, testing and learning to fill gaps in knowledge and understanding. Contrary to risks, a probability of occurrence cannot be assigned to uncertainties. The possibility of finding the information can be assigned a probability but not the uncertainty itself.

The inability to obtain the missing information, understanding, or knowledge, creates the risk that the missing knowledge negatively affects the innovation concept. Risk is an effect of uncertainty and is described as a deviation from the expected, where the consequences of an event and its probability/likelihood of occurrence can in most cases be quantified from available information, experience and/or capabilities.

4.3.3 Uncertainty reduction

The aim of front-end innovation is to identify and reduce uncertainty to a level acceptable for decision-makers by filling gaps in information, understanding or knowledge, through a process of opportunity and idea refinement and the generation of innovation concepts. It requires iteration and re-evaluation against a set of options or selection criteria (see [6.4.1](#)). When uncertainty is reduced sufficiently, and the innovation concept is deemed to be validated, it is then ready for development.

Reducing the level of uncertainty can thus be achieved through exploration and testing methods or tools, such as prototypes, tests, market studies, research projects, pilots, verifying assumptions, iterative creative input, research and data acquisition, simulations, storyboarding, modelling, in-market experiments, or reaching out to internal/external experts within networks to seek answers to questions. Building prototypes is a way to learn and acquire knowledge about feasibility. Using methods, such as lead user or design thinking, are efficient ways to verify user needs or desires as well as suitability of the desired solution for potential customers.

In this document, the activities for obtaining missing information, understanding or knowledge are included as part of testing. Testing, along with selection, is one of the two components of validation. Further information on managing the reduction of uncertainty is outlined in [6.3.4](#) (cataloguing innovation concept uncertainties) and [6.4.1](#) (testing).

4.3.4 Screening for uncertainty

As the management of ideas varies considerably with the level of uncertainty, the organization should screen for levels of uncertainty. As outlined in [5.2.4](#), screening into three levels of low, medium, and high can be effective for innovation portfolio management as well as for selecting innovation management methods.

[Annex B](#) provides examples of specific methods and tools to manage uncertainties across organization, technical/implementation, resource, market/mission, and interested party categories and independent of them. Tools include how to screen for, identify, and reduce uncertainties, including calibrating efforts to reduce them.

4.4 Fundamental questions and principles

In understanding the context for managing opportunities and ideas, the organization should consider how the following questions apply to current, planned and future innovation initiatives.

- Why look for new opportunities? There are many reasons for deciding to pursue new opportunities including: competition, new technology, drop in sales/growth, economic, statutory obligation, political and social change, outdated innovations, customer/user engagement, mission ambitions.

- What are the objectives? Make enquiries more specific by asking “How do these objectives help to focus innovation management efforts on types of innovation or on customers or products or service attributes or mission purpose?”.
- When will/might this happen? Timing, sequence, identifying milestones are all important considerations for planning and keeping opportunities and ideas on track.
- Who to enrol and engage? Key questions to consider are “Who is involved in creating and validating innovation concepts?” “Do we have the right capabilities and resources?” “Who is to benefit?” “Who might resist or be disadvantaged by this innovation concept?” “Who performs which roles?”
- Where to focus? Expand efforts by asking questions, such as, “Where else might we...?” or focus efforts on “Where will this work best?” for envisioned opportunities and ideas.
- Which innovation management options are best? Choose among a specific set of options, e.g. “Which methods and tools are most appropriate for opportunity and idea refinement or setting up experiments?”.
- How to set this up for success? Once a pain/need/desire is established, seek to ensure that opportunity and idea management efforts are successful. “Which are the best methods to use?”. Consider framing questions, such as “How might we...?”.
- What are the right questions to ask? Consider questions based on categories of uncertainty. See [Annex B](#) for examples.

These questions provide a learning framework for understanding the considerations and success factors for managing opportunities and ideas.

It is also important to consider these questions through the lens of innovation management principles listed in ISO 56000 that can be specific to front end innovation activities as follows:

- adaptability: developing adaptable structures and processes;
- managing uncertainty: ability to manage uncertainty and risk;
- exploiting insights: effectiveness in capturing insights to successfully exploit them.

4.5 Opportunity identification, idea generation and progression

Front end innovation activities can be managed both within and independent from more complete innovation management systems, i.e. for more comprehensive initiatives as part of a system through to standalone ideas. For illustration, see [Figure 1](#) in the Introduction.

Organizations should have processes to rapidly generate, capture, and screen for opportunities and ideas. More ideas from a diversity of sources can be better at an early stage than a few ideas from a few sources.

The organization should handle opportunities and ideas differently based on their categories and levels of uncertainty. This requires iterating through activities and learning through practice, reducing uncertainty with each iteration, and selecting innovation concepts to progress with or stop based on their potential to deliver value. Questions should be asked, and answers verified, based on assumptions and selection criteria, as outlined in [Clause 6](#). There should be repeated cycles of learning until uncertainty is reduced through the acquisition of knowledge and information. As the goal is to decide if an innovation concept is ready for development, the knowledge and information obtained can help decision making based on the agreed selection criteria.

[Figure 3](#) below illustrates the progression of opportunities, ideas and innovation concepts and their relationship with front end innovation processes. The order of activities is not universal and should be adapted for either the circumstances or the processes, or both. Where this is practiced, it enables more successful decision making.

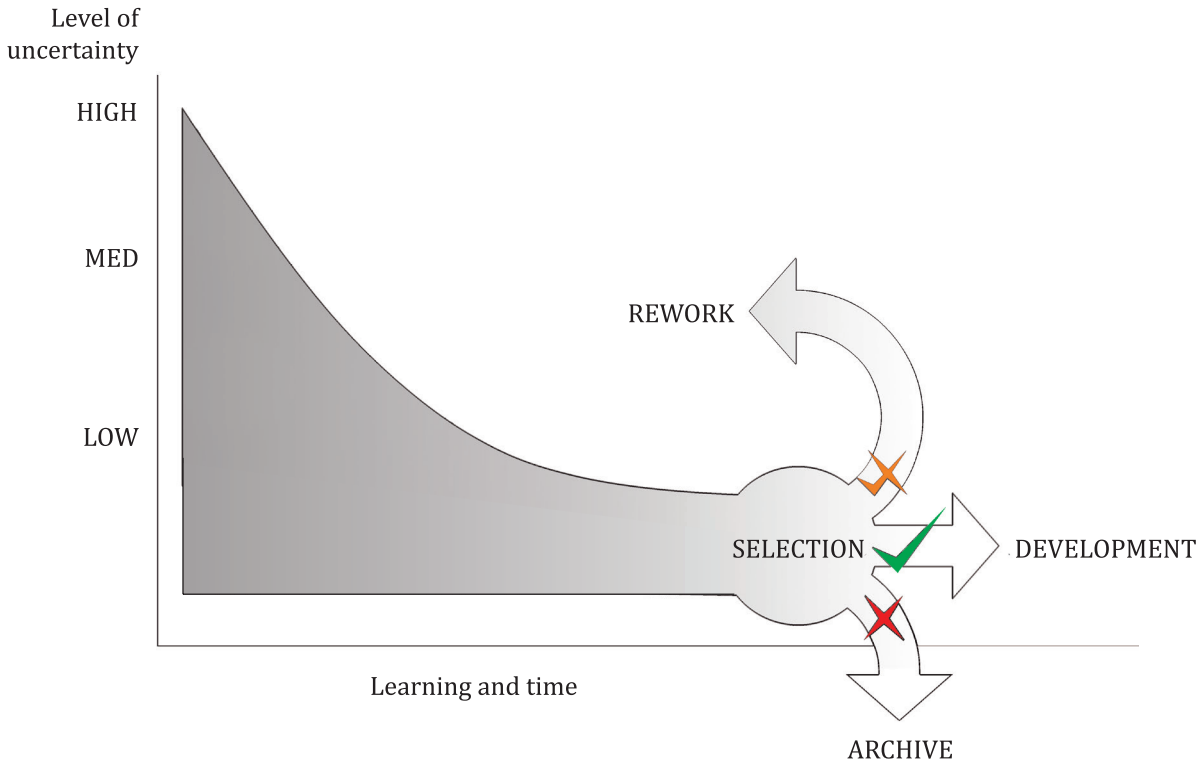


Figure 3 — Progression to selection

To reduce uncertainty, the organization should:

- capture trends, e.g. sector, market, technology, societal;
- conduct market analysis about competition and value potential;
- seek customer/user feedback from prototypes and customer observation about an opportunity, idea, or innovation concept and what features, products, services, and solutions are most likely to be of interest to users and customers;
- use personas and user experience analysis to study pains, needs, desires, and motivations about how a potential customer or user can adopt a new product, service, or solution;
- seek feedback from interested parties, import innovation concepts from experimentation, distribution, and supply chain partners, and get support from internal financial and organizational leaders about the organization’s ability to produce and deploy a new product, service, or solution;
- use business, competitive, and strategic intelligence together with brand and IP analysis about return on investment (ROI) and viability related to an opportunity, idea, or innovation concept.

More detailed, practical guidance on front end innovation processes and related activities is provided in [Clause 6](#).

4.6 Front end innovation considerations

Different considerations can influence how opportunities and ideas should be managed, including which methods and tools to use and how to use them. These can include how to think, what to think about, how to assess contributions, and how to make go/no-go decisions.

- Scale and scope

The origin of the opportunity or idea, effort to manage it or its eventual impact can determine scale and scope. Ideas and opportunities can be trivial or game-changing or anywhere in between.

Scale relates to size and evolution of an opportunity or idea.

Scope sets its boundaries.

Where the scale or scope is not well known, experiment at small scale first and iterate until enough is known to enable further management of the opportunity, idea or innovation concept.

— Uncertainty and risk

Methods and tools can be applied differently along the continuum of uncertainty. Incremental and radical innovations are the bookends from low to high uncertainty, respectively.

Risk appetite and risk management are additional considerations that can impact the choice of tools and methods.

— Value creation and realization

Some innovations create significant value for interested parties whereas others only realize minimal value. Disruptive innovations eventually displace established solutions. Incremental innovations can be less disruptive and bring value to improve or extend the lifecycle of existing solutions.

Interested parties determine value, in terms of e.g. revenue, profit, growth, renewal and safety of offerings, quality of life, social responsibility, sustainability, user/customer impact. This influences the scale, nature, and priority of innovation management efforts.

— Types of innovation

The organization should categorize types of innovation based on their degree of change, internal or external relationship to the organization, performance, cost, and/or customer value. A listing of innovation types is provided in [A.3](#).

— User and organization types

Examples of users and organization types who can be interested in front end innovation initiatives are described in 0.2 in the Introduction. The organization should clarify and refine innovation management choices, identify the type of organization as a starting point and its objectives for innovation management, including its organizational capability.

— Strategy and portfolio fit

The organization should develop opportunities and ideas within the context of either current strategy or strategic intent, or both to guide selection considerations as well as any contributions to innovation portfolio objectives. This can be particularly relevant as an organization matures its innovation management processes and the portfolio grows.

4.7 Methods for managing opportunities and ideas

The organization should prepare, plan for, and choose methods and tools, informed by all the considerations outlined above. Ensuring small, low-cost iterations early in the front-end innovation process is also valuable in enabling efficiency and sustainable success of innovation management efforts. An awareness of the range and uses of available methods enables and simplifies front end innovation planning and decisions.

Some methods can combine characteristics from different categories. Some focus on the innovation management processes themselves, while others focus on the organization, governance, or culture. How opportunities and ideas are generated and managed is different in each method. Hundreds of methods are available. [Annex A](#) presents more comprehensive information on methods and tools.