ISO 56002:2019
Innovation management system

A PRACTICAL GUIDE

UNIDO
UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

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Foreword

Compare your life now to how it was a decade ago. In the past, almost all aspects of life involved more effort, whether it was getting a taxi, renting your favorite movie, or ordering a meal. Today, we can do most of these activities while sitting in a comfortable armchair with nothing more than a small touchscreen phone. All these products, processes, and services have come about because creative people or companies saw an opportunity in the marketplace and came up with an innovative solution. It may seem that some of these innovations came about by a fluke, but in most cases, they are the result of a carefully managed process. The ISO 56002:2019, *Innovation management system – Guidance*, developed by ISO/TC 279, *Innovation management*, aims to provide organizations with the support they need to develop a systematic approach to effective and efficient innovation. In other words, it is a tool to help your organization spotlight great ideas and initiatives that are directly linked to your vision. This handbook focuses on the fundamental principles of innovation management, which include strategic direction, organizational culture, insights, and adaptability.

Organizations of all sizes and sectors can benefit by following the guidelines and ensuring that they are able to adapt and evolve with their environment. To further support organizations on their innovation management journey, this handbook has been published with the aim of extending the guidelines from ISO 56002:2019.

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The content of the handbook is structured to help users understand the processes to successfully innovate and deliver value to stakeholders. Similar to the application of standard ISO 56002:2019, any type of organization can use this handbook. It is of particular interest to SMEs looking to develop or improve a structured approach to innovation.

The International Organization for Standardization (ISO) and the United Nations Industrial Development Organization (UNIDO) have jointly published this handbook with the immense support of ISO/TC 279. UNIDO initiated the drafting of the handbook simultaneously with the development of the ISO 56002:2019 standard for dissemination in developing countries as a capacity development tool for standard bodies, innovation institutions, and academia. For its finalization and validation, a dedicated task force was established within the ISO/TC 279. The handbook provides practical tools and methods to countries for more and better innovations towards inclusive and sustainable development.

We hope your Organization can benefit from this publication and become more resilient, innovative, and prepared for an ever-evolving world.

Gerd Müller
Director General
UNIDO

Sergio Mujica
Secretary-General
ISO

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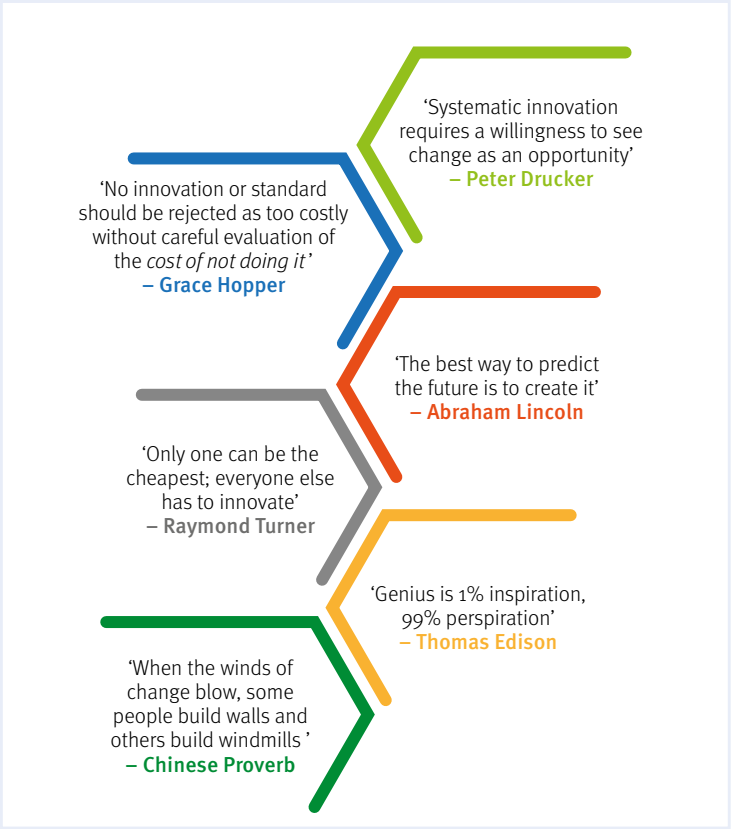
Introduction to the innovation management system



What 'good' looks like when it comes to managing innovation.

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Introduction to innovation management

Innovation is widely recognized as being a key factor in driving economic growth, development of society and increased well-being. Despite good intentions and successful pilots, organizations often struggle to make innovation an enduring and sustainable part of their business.

If you have...

- generated ideas through creativity sessions, design thinking, or online inventiveness and want to take them to the next level;
- struggled to commercialize ideas that your team has generated;
- recently taken up responsibility for innovation, and wondered where to start;
- identified a need to fundamentally transform your organization; or
- a drive to simply do things differently.

... and you want to...

- be confident that you're solving the right problems;
- generate solutions that will disrupt your market;
- build confidence in your ability to manage innovation; or
- avoid some of the common innovation pitfalls.

... then you should consider taking a formalized and systemic approach to delivering innovation.

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Innovation is the successful exploitation of a new idea to realize value. It can relate to a product, a service, a process, a model or any combination of these. Some ideas are small, some are big; but innovative ideas will be novel and will make a difference.

Innovation management is about defining, planning and executing the steps required to progress ideas into innovations. It is a discipline that combines the freedom and creativity of generating ideas with the formality required to manage risks, investments and project implementation.

An **innovation management system (IMS)** is a set of interrelated and interacting elements and activities that enable an organization to develop and enhance its innovation capabilities. These elements and activities include an understanding of the organizational context, leadership commitment towards innovation and realization of value, formal and systemic planning, support and operation of innovation activities, and sustained monitoring and measurements to drive continuous improvement.

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This overview of the ISO 56002:2019, *Innovation management — Innovation management system — Guidance*, provides a short introduction to what good looks like when it comes to managing innovation according to experts from over 50 countries.

Consistently generating ideas that will ensure the viability and sustainability of a business requires a conscious decision to put a system in place which will:

- ensure the effort spent on innovation is aligned to, and supports your overall business strategy;
- provide talent-related requirements such as programmes, tools and techniques that enable all your employees to derive creative solutions to the challenges they face, and to transform those insights and ideas into tangible business value that can be measured;
- drive behaviours and activities that can result in attracting new customers or expanding into new markets; and
- support exposure to novel technologies and partnerships which could give a competitive advantage or build intellectual property (IP).

It's likely that your competitors will be embedding innovation in all that they do, quickly responding to changes in markets and operating conditions, and achieving sustained and repeatable innovation success. Ad hoc innovation does add value in the short term, but without systematic support, it will tend to be sporadic and non-sustainable.

You can secure sustained innovation capabilities by implementing a systematic approach. An innovation management system helps you promote, facilitate and manage innovation to realize your organization's full innovation potential.

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Innovation management principles

The foundation and successful management of an innovation system depends on a number of key principles.

- **Principle 1:** Realization of value
  The purpose of innovation is to realize value, whether financial or non-financial, through identifying, understanding, and satisfying the needs and expectations of interested parties.

- **Principle 2:** Future-focused leaders
  Leaders across the organization need to inspire and engage all teams to challenge the status-quo and balance short-term performance with resourcing future success.

- **Principle 3:** Strategic direction
  The innovation vision, innovation strategy and associated innovation objectives must be defined and aligned with the overall strategic direction of the organization.

- **Principle 4:** Culture
  A focus on operational excellence and efficiency needs to be broadened to develop values, beliefs and behaviours that support the creation and implementation of new ideas.

- **Principle 5:** Exploiting insights
  Identify needs and opportunities, and then apply a systematic approach to gain diverse insights that can be exploited to generate new ideas to realize value. Go beyond the obvious and incorporate a glimpse of the future.

- **Principle 6:** Managing uncertainty
  Balance the exploitation of ideas with the management of risks. Taking a portfolio approach allows experimentation and exploitation, building confidence during times of uncertainty.

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- **Principle 7:** Adaptability

  Exploiting new ideas often requires changes to structures, processes, skills and delivery models. Embrace these changes and provide support to those implementing them.

- **Principle 8:** Systems approach

  Work together towards a common innovation purpose by understanding all the components. Managing innovation as a system improves learning, effectiveness and impact.

INNOVATION APPETITE

Many organizations are put off of innovation because it is perceived to be 'disruptive' or 'radical' and focused on inventing something new. Perhaps you believe it doesn't apply to you because you don't have an R&D department; or perhaps you work in a not-for-profit or charity and are not focused on generating new products (or even on generating profits).

Innovations with high a degree of novelty grab the headlines, but there are levels of innovation that can impact any organization and that are relevant across all sectors.

ISO 56000:2020, *Innovation management – Fundamentals and vocabulary* defines those different levels as follows :

- Incremental innovation is about improving what you do today.
- Radical or breakthrough innovation is an innovation with high degree of change where the change can relate to the product or service itself or to its impact.
- Disruptive innovation is an innovation that initially addresses less demanding needs, displacing established offerings.

Each type of innovation carries different risks, and each organization should assess their own appetite for the risks and benefits of each approach as part of defining their innovation strategy.

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ISO 56002:2019, *Innovation management system – Core components*

An innovation management system consists of interrelated and interacting elements and activities that enable any organization to identify, record and display the policy, strategy, objectives and processes that are needed to fulfil its innovation aspirations.

The innovation management system coordinates and directs the organization's innovation activities to ensure alignment to their customer and business requirements. It also provides mechanisms to measure and improve innovation effectiveness and efficiency on a continuous basis.

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Getting started

Getting started with innovation management isn't difficult, and can be achieved in a few simple steps:

1. Establish the need and context for innovation in your organization.
2. Identify one person to own and drive innovation who has the full support of the leadership team.
3. Set a vision for what you want to achieve through innovation.
4. Define an internal roadmap for innovation that's aligned to your corporate strategy and includes a set of objectives and measures.
5. Assign resources and give the people working in your organization the support, training and time they need to deliver innovation.
6. Identify innovation opportunities and challenges to focus on the creation of novel ideas. Verify those ideas with your users or customers, and develop them into new services, products or operations.

The introduction of an innovation management system will help to create a culture of innovation, which in turn will make your innovation activities 'sticky' and sustainable.

This overview relates to the ISO 56000 family of standards, developed by the International Organization for Standardization (ISO), and most specifically to ISO 56002:2019.

If this overview has been of interest, there is a key reference that you might find useful:

- ISO 56002, ***Innovation management — Innovation management system — Guidance***

This standard provides comprehensive guidance for those looking to establish, implement, maintain and continually improve an innovation management system. Importantly, it doesn't mandate how you should innovate, but instead outlines aspects to be considered if you are planning to innovate. It is available at the ISO Online Browsing Platform: https://www.iso.org/obp.

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Introduction

Purpose of this handbook

Innovation may appear to be a uniquely creative process, seemingly without structure. However, innovation rarely happens by chance, and it is more likely to result from an organized process that is sometimes not obvious, but nonetheless real. Accepting that innovation is the result of a process means that it is possible to organize activities in such a way that innovation is more likely to happen and will be more effective.

This handbook provides guidance for organizations wanting to innovate, and it expands upon the standard ISO 56002:2019, *Innovation management — Innovation management system — Guidance*. This handbook increases the understanding of and outlines a progressive implementation approach to the many recommendations of ISO 56002:2019. It is particularly focused on small and medium-sized enterprises (SMEs) where it can be used to initiate or improve innovation dynamics. The handbook is structured as a series of questions, followed by operational guidelines and explanations that are aligned with ISO 56002:2019. In some cases, it provides additional knowledge and tools that facilitate the launch of an innovation and the transition to become an innovative organization.

This handbook is the result of a collaboration between ISO and UNIDO, written by a panel of innovation and standardization experts.

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Standardization background

Standardization is a tool for improving the relevance and competitiveness of any given organization. Standards are created at national, regional (such as European), and international levels. International Standards are published by the International Organization for Standardization (ISO) which is an independent, non-governmental international organization with a membership of 165 national standards bodies, **https://www.iso.org/about-us.html**.

Through its members, ISO brings together experts to share knowledge and develop voluntary, consensus-based, market-relevant International Standards that support innovation and competitiveness, and provide solutions to global challenges.

In addition to other categories of standards, ISO has developed management system standards (MSS). A management system is the way in which an organization manages the interrelated parts of its business in order to achieve its objectives. Such objectives can relate to several different topics, including product or service quality, operational efficiency, social responsibility, environmental performance, health and safety in the workplace, and many more.

All ISO MSS are based upon a common harmonized structure that enables integration across management systems. Thus, an organization can implement several MSS and benefit from the additionality provided by an efficient approach to implementing different systems.

A MSS can be "Type A MSS" or Type B MSS". Type A contains requirements against which an organization can demonstrate alignment, whereas a Type B contains guidance that does not lead to certification.

After many national and multinational initiatives (see Annex A), in 2013, ISO set up a technical committee ISO/TC 279, *Innovation management*, to draft standards in the domain of innovation management. In 2019, ISO/TC 279 published a Type B MSS: ISO 56002:2019, *Innovation management — Innovation management system – Guidance*. The associated definitions of this guidance are published in ISO 56000:2020, *Innovation management — Fundamentals and vocabulary*, and are the founding elements of this handbook.

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Understanding the system approach

ISO 56000:2020, *Innovation management — Fundamentals and vocabulary*, defines innovation as "a new or changed entity, realizing or redistributing value" where:

- Entity can refer to a product, service, process, model or method;
- Value can be financial or non-financial (e.g. image, strategic advantage, knowledge acquisition, IP); and
- Novelty (newness) and value are relative to, and determined by, the perception of the organization and interested parties.

Innovation is defined as an outcome rather than an activity, and innovation management is the method of defining, planning and executing the steps required to innovate.

Delivering successful innovation is an important challenge and often consumes considerable resources. However, it is becoming critical to innovate regularly, and this leads enterprises to look for an efficient way to manage innovation activities, and to integrate innovation activities into daily business life.

Managing innovation activities efficiently means being able to mobilize the adequate processes, resources, and skills at the right time. These interrelated and interacting elements and activities, when combined, form what ISO 56002:2019 defines as an innovation management system.

By developing an innovation management system that meets the needs of your organization, you will increase your ability to deliver new products, processes or services and business models. Formalizing the management system provides a solid basis for innovation and allows for continuous improvement. As with any management system, the innovation management system can be continuously improved by using and Plan-Do-Check-Act (PDCA) approach.

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Structure of the handbook

Enterprises often start their innovation journey by seizing an opportunity, experimenting with the generation of ideas, and developing an innovation. For this reason, this handbook does not follow the exact sequence of ISO 56002:2019, which describes the various components of an innovation management system. Instead, this handbook addresses the process required to successfully deliver an innovation. The later sections then invite you to take a step back and look at all the other elements that should be considered when deploying an innovation management system to reinforce your enterprise's abilities to innovate.

The guidance presented in this handbook does not necessarily need to be implemented all at the same time, or even in the sequence shown. Taking a systems approach will ensure that all the elements are tied together and that your organization considers all the aspects and elements required to innovate successfully.

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Delivering innovations

Do you consider that your organization has established adaptable processes for innovation initiatives?

The first concern of managers, when they start to get interested in the concept of an innovation management system, is to bring an innovation to the market in a structured way. This is why the first chapter of the handbook is devoted to delivering innovation. However, we strongly recommend that you read all the chapters as you aim to develop effective innovation capabilities (see **Figure 1**).

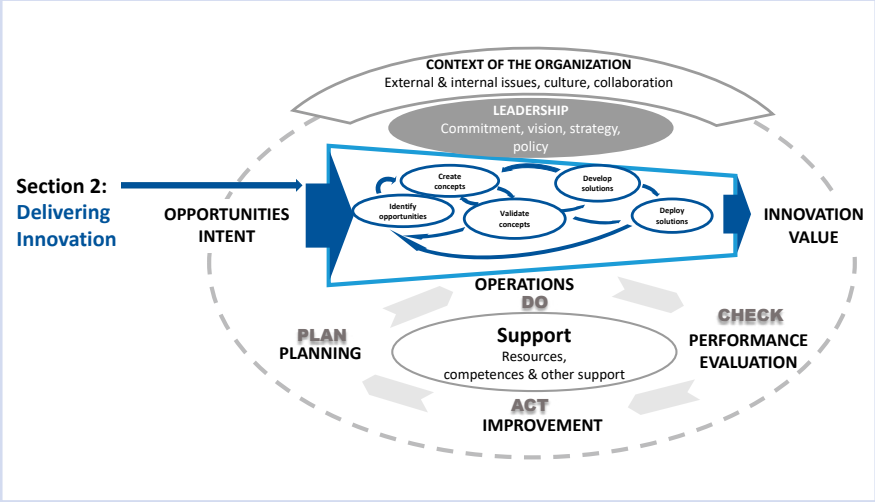

Figure 1: *ISO 56002:2019 Innovation Management System – Visual representation with relation to the second section of this handbook.*

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Innovation initiatives

In terms of operational planning and control, ISO 56002:2019 suggests that every innovation activity needs to be managed, whether it leads to an incremental change or a more radical, disruptive change.
ISO 56002:2019 provides a comprehensive list of aspects and perspectives that each organization needs to consider, some of which are highlighted below.

SCOPE
Set a clear scope for the innovation activities – what is to be included and excluded; what are the objectives, constraints, expected outputs and deliverables?

INDICATORS
Define and agree on a set of measures to inform decision-making along the innovation processes and drive continuous improvement. Determine how these measures will be evaluated.

LEADERSHIP
Provide strong leadership to empower, encourage and support the team, ensuring they have the resources they need.

TEAM
Make sure the right people are involved and that they are available to review and make key decisions. Create a broader team when needed, and include suppliers, third parties, educational bodies, customers, and other interested parties when their input could add value.

DECISIONS
Agree how decisions are to be made and who will lead the process. There will be a lot of unknowns and uncertainties, so agreeing on the next steps will be critical throughout the innovation activities.

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ROLES

Define all the key roles and ensure those taking on the roles are committed and understand their critical importance to the organization.

EARLY ASSET CAPTURE

Watch out for any opportunities to protect the IP you are building. It can be all too easy to give this away and fail to leverage the value it generates.

REVIEWING & LEARNING

Review and capture feedback to refine the process as it becomes integrated into the organization's other processes and systems.

When implementing your innovation activities, aim to manage the process consistently, whether you have one internal process or many and whether you plan one or several innovation activities.

When agreeing on the approach to managing innovation initiatives, seek input from many people across all disciplines within the organization. Lead this with positive determination and energy. Consider building a network online to make it easier to listen to and learn from others who have successfully innovated within their own organizations.

As you learn how others deliver successful innovation, carry out a further review of your own innovation model to refine it further.

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Innovation processes

Well-structured innovation processes provide a framework to guide the organization through the steps required to address a need to change or to improve. Your organization needs to determine processes that work for you, and that are appropriate to the scope, constraints and ambitions of your innovation initiatives. The innovation processes guide those involved, step by step, on how to undertake the innovation activities.

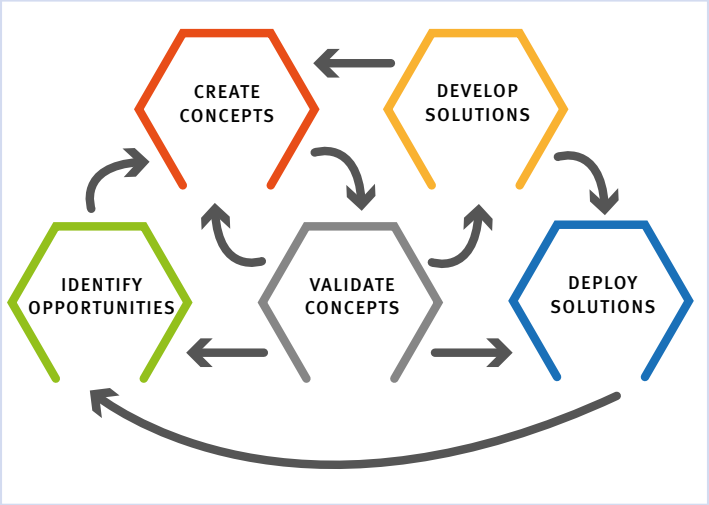

Figure 2: *Innovation Process following the ISO 56002:2019 Innovation Management System.*

Clear processes for innovation within your organization will enable you to authorize, empower and train your people to explore better ways of delivering positive outcomes. Organizational thinking is often bound within a set of organizational constraints, and the innovation processes grant permission to take a more open approach to exploring the root causes of any challenges, and to seeking out new and smarter solutions.

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The previous diagram (**Figure 2**) shows how innovation processes are represented in ISO 56002:2019. Unlike more traditional processes and operating procedures, innovation processes are not linear, and it does require a more open mindset than is required for more traditional work practices.

Well-considered and effective innovation processes will provide guidance on:

- identifying the right opportunities and problems to address, for the benefit of your organization and the other interested parties;
- creating concepts that will address the challenge in the right way for all involved, whether this results in a small incremental change or in a disruptive or radical change;
- validating the concept, whether it is a new or updated service, product, technology platform or business model (or indeed a combination of all four) to ensure it meets the issue or challenge being addressed;
- developing the concept into a viable solution that can be exploited to have a positive impact, and realize value; and
- deploying the solution to its relevant market, once there is confidence that the right solution has been developed, and a commercialization plan has been agreed.

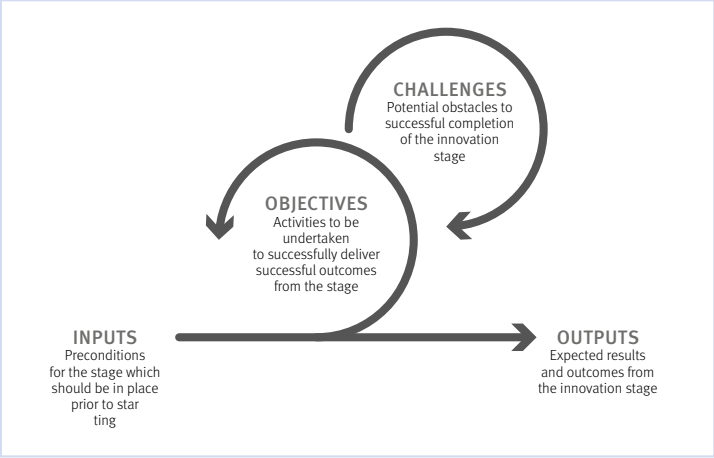

Figure 3: *Stages of Innovation.*

The sections below cover each stage in turn, using the simplified model shown in the diagram (**Figure 3**) above.

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Identify opportunities

The first stage of the process is to identify and capture opportunities for innovation within the organization's context. This stage focuses on identifying areas of the organization, or its service or product offerings, that may lead to innovation and the generation, validation, development and ultimately deployment of new solutions.

Objectives of this stage

Novel ideas can originate from many places but many may be less relevant to a specific organization. To focus innovation effort, it is critical to set the scope and boundaries for the generation of new ideas. The scope for innovation will be influenced by gaining insights from market trends, research, horizon scanning and from a review of internal processes, products and services.

The opportunities must be aligned to organizational needs and aspirations and should take into account the learning and experiences from previous business activities.

Inputs into this stage

- The organizational context and intent for innovation has been agreed;
- a clear scope of the innovation initiative outlines how radical or otherwise ideas and new concepts should be;
- requirements (or constraints) as related to the innovation agenda within the organization; and
- insights and knowledge gained from external sources, such as emerging technologies, industry trends, or changes to the markets the organization operates within.

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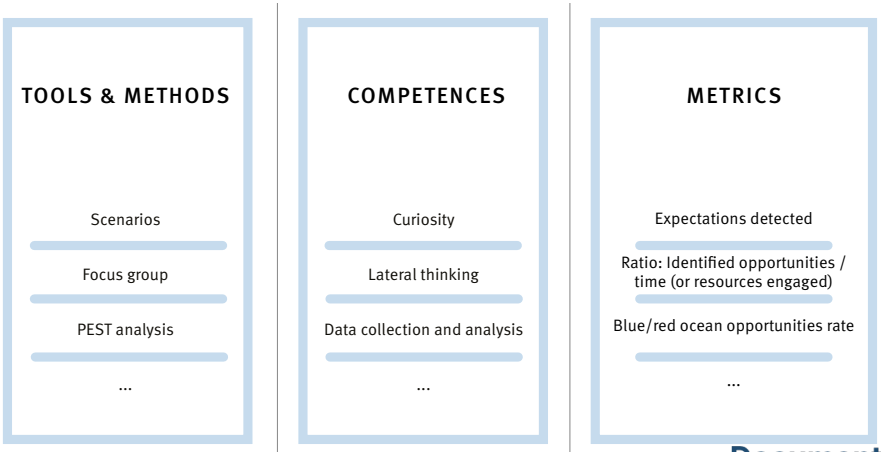
Challenges you might face during this stage

- A reluctance to change the existing portfolio of products and services;
- a lack of awareness of technology or market trends that could apply to the organization; and
- a narrow perspective on challenges the organization faces, often leading to cost-cutting exercises rather than investment in new innovation.

Outputs from this stage

- A clearly identified opportunity or prioritized opportunities that can be used as the basis for idea generation;
- clear guidance for ideating against the opportunity, considering the scope, potential constraints, and acceptance criteria for the ideas generated in the next stage;
- an understanding of the state-of-the-art, including a consideration of intellectual property rights (IPR) as applicable; and
- an understanding of the potential value to be realized and other potential impacts (positive or negative)".

Additional considerations you may have during this stage:



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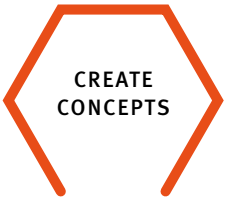
Create concepts



Having identified opportunities, the next step is to develop concepts or ideas which have the potential to be transformed into future products, services or business processes. New ideas can come from a range of sources that are internal or external to the organization, and the actual idea generation can be performed using a variety of techniques such as creativity workshops, online ideation, design thinking, or experimentation.

The methods or process an organization uses should take into account the skills and the capabilities of those involved; the needs of interested parties; alignment with innovation strategy; and the time and resources available.

Objectives of this stage

These usually include developing new ideas or potential solutions from internal and external sources; using a variety of ideation and creative problem-solving techniques; and identifying ideas that could have the potential to be developed into a viable product or service. The ideation activities can result in the generation of hundreds of ideas, which need to be further validated against criteria such as feasibility, desirability, affordability, risk, novelty or sustainability.

Inputs into this stage

- A clearly defined opportunity, or prioritized opportunities;
- ideation skills, with those facilitating ideation being competent in a variety of innovation techniques such as design thinking, ideation, and creative problem-solving; and
- clearly defined evaluation criteria to allow the assessment and selection of ideas.

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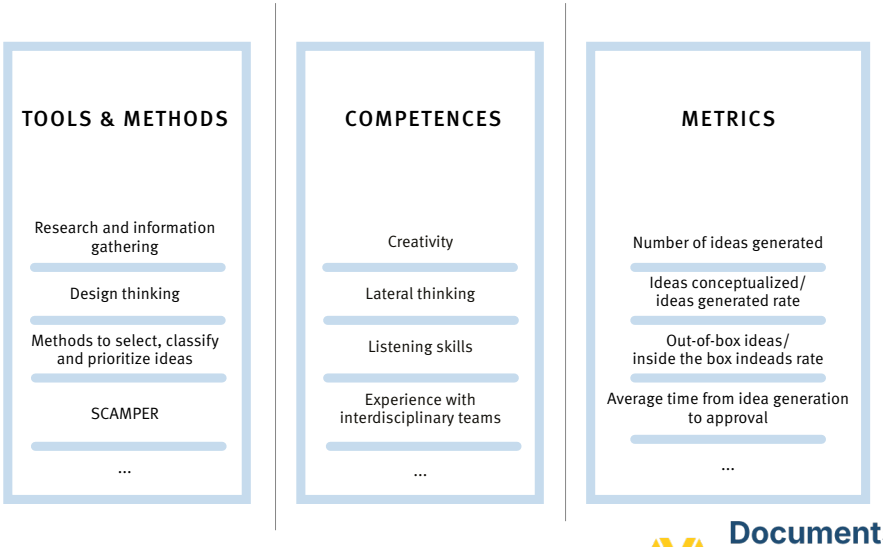
Challenges you might face during this stage

- Lack of ideation skills because of inadequate training for those driving the ideation;
- insufficient resources or time commitment to innovation and idea generation;
- key influencers prejudging and dismissing ideas before they have been fully validated; and
- not understanding the appetite that the organization has towards taking a risk when it comes to innovation.

Outputs from this stage

- A list of all generated ideas assessed against the agreed selection criteria;
- a shortlist of concepts to be taken through to validation, and their associated preliminary value realization model; and
- an initial assessment of the risks, degree of novelty, and critical uncertainties associated with each shortlisted idea.

Additional considerations during this stage:



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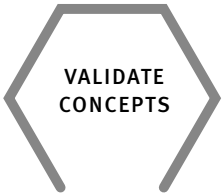
Validate concepts



Once novel ideas have been generated and shortlisted, this critical but often overlooked step is required to ensure concepts have been well thought through before embarking on expensive and time-consuming solution development.

Objectives of this stage

Verifying the feasibility of the concept aims to reduce uncertainty and confirm commercial viability. By focusing effort on validated concepts, resources can be engaged most efficiently on the initiatives most likely to add value. Validation should start before any significant time or money is spent on solution development. You may want to consider one or more approaches to validation, such as user testing, experimentation, prototyping and pilots, and research studies.

When validating concepts, it is critical to reduce uncertainties and challenge assumptions and get feedback as soon as possible. This knowledge and feedback can come from customers, users, partners (internal or external to the organization) or from other interested parties.

Validation can take many forms – prototyping, experimentation, studies, customer discovery interviews, etc. Regardless of how validation is achieved, the key factor is that the feedback and new knowledge gained are used to refine and improve the concept.

Inputs into this stage

- A shortlisted idea from the creation stage;
- clear acceptance criteria set out for the validation process (you need to know what 'good' looks like to your organization); and
- a clearly defined approach to concept validation that is appropriate to the organization and the concept, e.g. it might not be sensible or appropriate to create a technical prototype for a new service offering.

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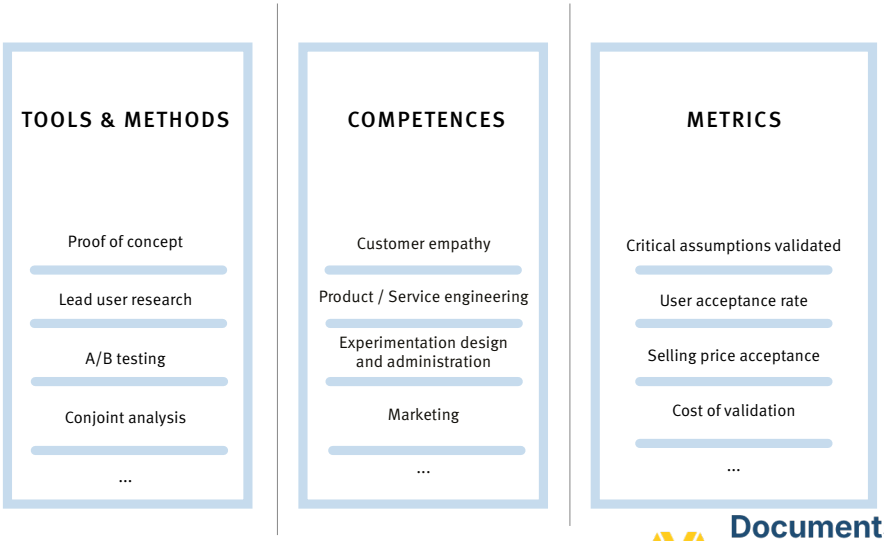
Challenges you might face during this stage

- A vague or unclear concept;
- lack of skills to create a viable prototype for a new product;
- insufficient time or budget to conduct the validation step;
- a fixed, pre-existing view on how the concept will be received by the market; and
- an unwillingness to hear potentially negative feedback from customers or partners.

Outputs from this stage

- A refined, validated concept ready to be developed;
- reduced uncertainty associated with the concept;
- insights and knowledge that are new to the organization; and
- an improved level of trust and cooperation with customers, partners and other interested parties outside of the organization.

Additional considerations during this stage:



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Develop solutions

Once concepts have been validated, the next target is to develop practical solutions, ready for deployment.

Objectives of this stage

These usually relate to transitioning from a broad view of the opportunity and the various ideas created to developing a specific solution. Not every idea will be taken through to this development stage, or on to deployment, so during this stage the various elements of a viable solution are created which can realize value for the key interested parties. Once the various elements of the overall solution are proven, then these can be brought together and refined into a solution that can be deployed.

Inputs into this stage

- Concepts that have been identified, elaborated upon and validated;
- a broad understanding of the risks, uncertainties and benefits associated with the solution;
- lessons learned from the validation stage, such as results of experimentation, outputs of user testing, or market analysis; and
- an outline, or detailed, business case as required by the organization to justify the investment in the development phase.

Challenges you might face during this stage

- Unrealistic expectations regarding costs or timelines to develop the solution;
- Failure to consider IP (generated or potentially using others);

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- not considering the full impact on the organization in terms of budgets or structural changes required to support the solution;
- legal, environmental, regulatory or political considerations; and
- lack of specialist skills required to develop the solution.

Outputs from this stage

- A viable solution that is ready for deployment including a plan with established activities, resources, relationship and timing to fulfil all the deployment needs and requirements;
- a go/no-go decision to move to deployment – some solutions may be identified as non-viable and therefore terminated during the development stage, some others may be identified as needing further analysis before deployment and may go back to previous innovation processes. Finally, the organization may choose to hold on to a solution for a while, waiting for the context to align with the desired impact of this solution; and
- a model outlining how the solution might impact the organization and the chosen target market.

Additional considerations during this stage:

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