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Innovation management — Tools and methods for intellectual property management — Guidance

Management de l'innovation — Management de la propriété intellectuelle

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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).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 279.

Introduction

0.1 General

Every organization involved with innovation initiatives has to address intellectual property in one form or another because intellectual property is inextricably linked with innovation. Intellectual property ("IP") refers to unique, value-adding creations of the human intellect that results from human ingenuity, creativity and inventiveness. IP is a type of property while intellectual property rights ("IPR") are the rights arising from different types of IP.

IP enables the granting of property-like rights over new knowledge and creative expressions. For example, IP relates to scientific or technological products or processes, software, data, know-how literary and artistic works, designs, symbols and names. There are various types of IPRs that protect different innovation outputs.

IP is becoming increasingly important on a global scale in today's knowledge-based economy. IP is no longer important just for large organizations, it is also important for smaller organizations because it allows all organizations to capture the benefits of innovation. A consideration of third-party IP is also relevant in order to ensure that organizations can leverage the outcome of their innovative efforts. It is important to engage in IP management activities across the organization and amongst organizations. For example, IP can facilitate ideas being co-developed, exchanged and traded.

An organization can leverage IP to achieve its business objectives and to implement innovation initiatives, for a range of purposes such as:

- strategic positioning,
- finding routes to innovation,
- protecting innovation results,
- attracting and securing investment,
- increasing competitive advantage,
- establishing freedom to operate,
- creating innovation value,
- enabling collaboration.

IP strategy should be an integral part of the wider business and innovation strategy. Organizations should be aware that considering IP only from a defensive perspective can obfuscate some benefits that IP can achieve which may support additional innovation and business objectives. This is because effective IP management enables an organization to optimize its IP assets to achieve a wide range of organizational objectives, and to maximize the benefits associated with innovation, while minimizing risk, uncertainty and cost. It can enable collaboration with partners, competitors, and customers, which may yield enhanced innovation outcomes. IPM can create collective value through collaborative approaches (e.g. open-innovation, joint-development, ecosystems, and networks effects), and be a driver of revenue (e.g. cash flows through licensing).

Effective innovation management should include implementing an IP strategy which is aligned with the business strategy. There are several activities associated with an IP strategy (illustrated in the outer circle of [Figure 1](#)) and the implementation of these aspects results in positive outcomes (illustrated in the inner circle of [Figure 1](#)).

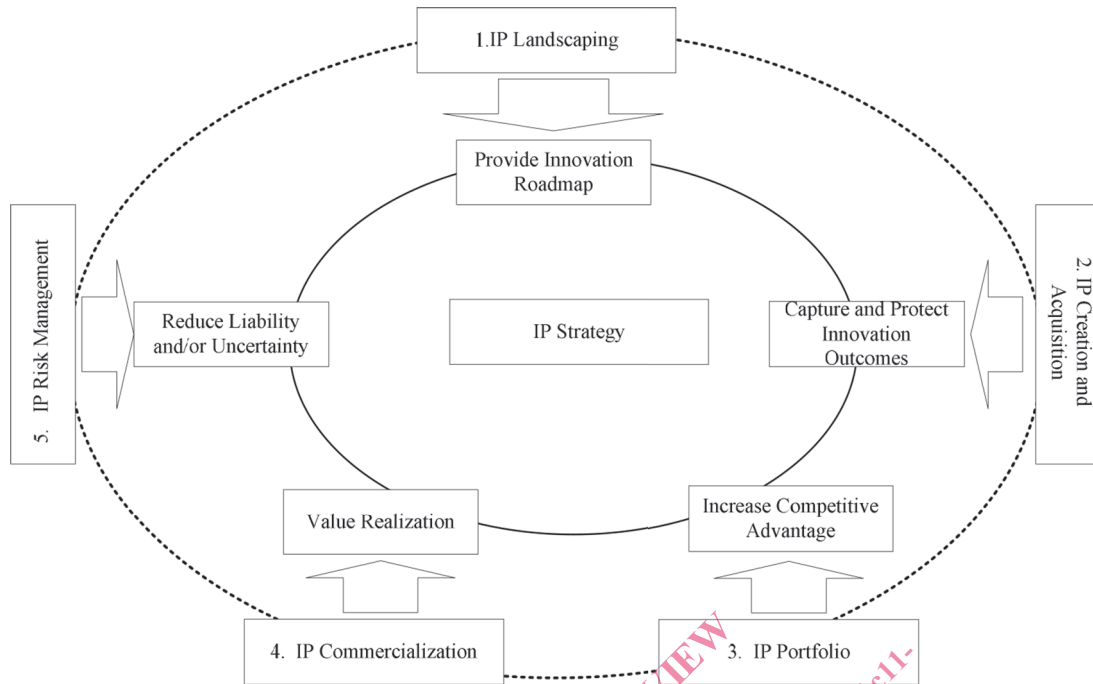


Figure 1 — The role of IP in innovation management

There is no universally appropriate IP strategy, since an IP strategy should be tailored to the needs of an organization's business and innovation strategies. Therefore, the IP strategy should be flexible enough to adapt and change over time. In other words, the depth and breadth of an IP strategy should be adaptable to the changing needs of the organization over time.

0.2 Principles

The following principles, derived from the innovation management system provide a foundation for IP management:

a) Realization of value

The management of IP should create value for all relevant stakeholders. This includes long-term and short-term value; explicit and implicit value; financial and non-financial value.

b) Future-focused leaders

At the outset of an innovation initiative, leaders across the organization should inspire and engage employees, and other interested parties, to generate, protect and leverage IP with a view to long-term value creation for the organization.

c) Strategic direction

The organization should align the overall strategic direction for the management of IP with its business and innovation strategies.

d) Culture

The organization should foster and sustain shared values, beliefs, and behaviours across the organization with a view to generating, protecting and leveraging IP for long-term value creation for the organization.

e) Exploiting insights

The organization should access a diverse range of internal and external IP knowledge sources to systematically build expertise to support of stated and unstated needs.

f) Managing uncertainty

The organization should evaluate and manage innovation uncertainties and risks from an IP perspective.

g) Adaptability

The organization should adopt relevant systematic IP management processes in a timely manner to address changes in organizational context and to ensure continued alignment with its desired purpose and core capabilities.

h) Systematic approach

The organization should manage IP based on a systematic approach (instead of on an ad-hoc basis) with a view to reducing organizational risks and enhancing value creation potential for the organization.

0.3 Structure of the document

The management of IP is necessary for effective innovation management. It provides a means for the organization to obtain and maintain a dynamic core capability and to transform its innovation results into valuable IP assets.

The organization should consider the following:

- An IP management framework aimed at the implementation of IP management activities ([Clause 4](#));
- An IP strategy, as an integral part of the organization's business and innovation strategies ([Clause 5](#));
- IP management activities tailored to the innovation process, especially taking account of the changing context in different innovation stages ([Clause 6](#), linked to Clause 8, ISO 56002:20XX);
- IP tools used in support of IP management activities ([Annex A](#) to [Annex F](#)).

[Figure 2](#) presents the structure of IP management with references to the clauses of this document.

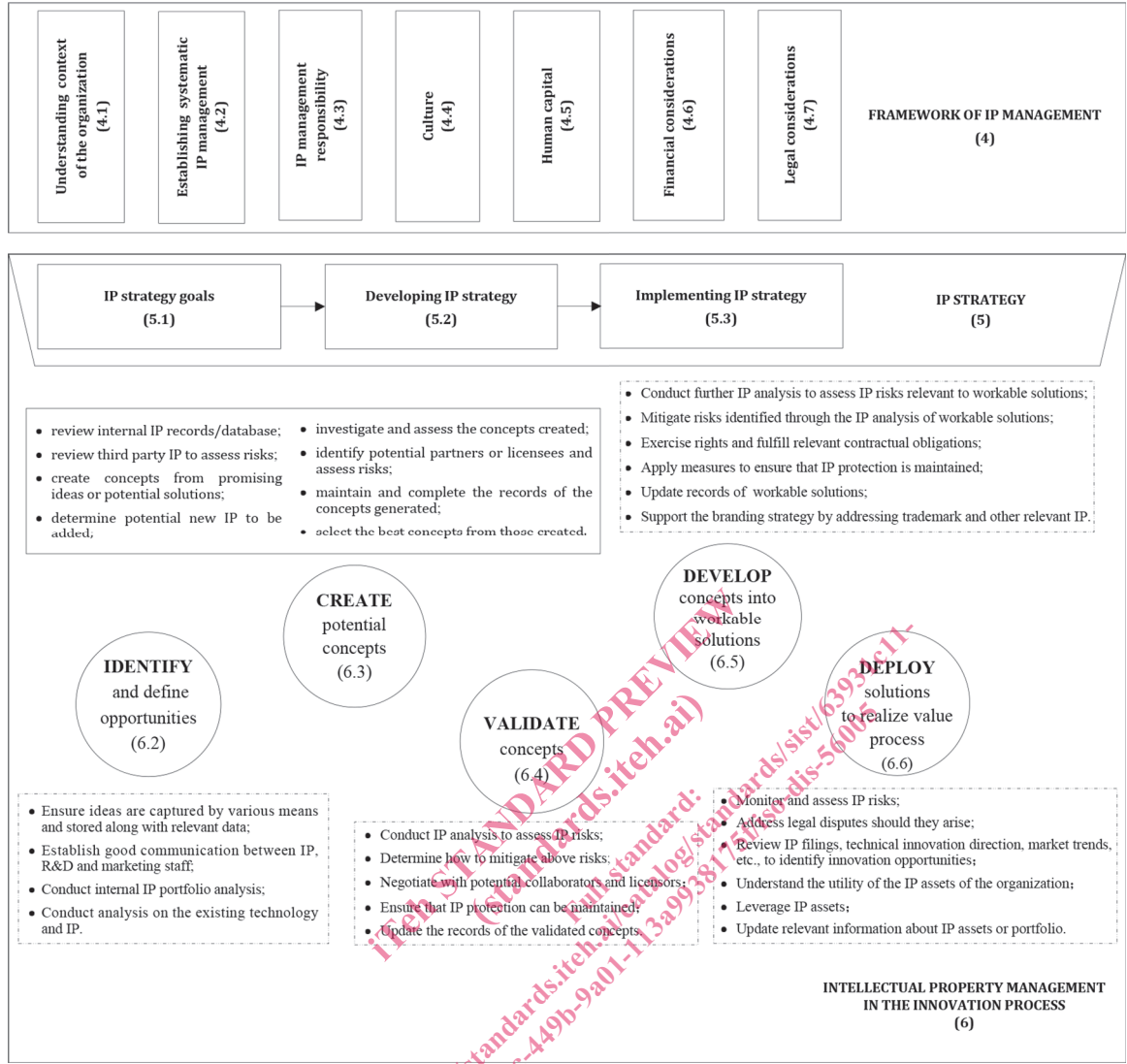


Figure 2 — Structure of IP management with reference to the clauses of this document

Innovation management — Tools and methods for intellectual property management — Guidance

1 Scope

Efficient management of IP is key to support the process of innovation, is essential for organizations' growth and protection, and is one engine of their competitiveness.

This standard proposes guidelines for supporting the IP within innovation management. It aims at addressing the following topics concerning IP management at strategic and operational levels:

- Creating an IP strategy to support innovation in an organization;
- Establishing IP management in the innovation process;
- Applying IP tools and methods in the innovation process.

This standard can be used for any type of innovation activity.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological 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 Framework of IP management

4.1 Understanding context of the organization

The organization should determine external and internal issues that are relevant to its objectives and that affect its ability to achieve intended IP strategic objectives.

The organization should:

- a) scan and analyze the external environment, considering issues related to a) areas such as market, culture, technology, legal and political aspects; b) geographic scope: whether international, national or regional; c) time horizons - short, medium, or long term; d) potential opportunities and threats, such as opportunities with collaborators or threats from competitors;
- b) analyze the business and innovation strategies and types of IP assets of the organization, considering issues related to: a) the business and innovation vision, strategic direction, existing management practices; b) the business and innovation objectives and planning to achieve them; c) existing IP owned by the organization or licensed to or from others; d) process and resource strengths and weaknesses that can impact achievement of intended IP objectives; e) cultural aspects such as values, attitudes, and commitment at various levels of the organization;

- c) identify interested parties (internal or external, current or future), that are relevant to IP management in innovation, and determine their relevant needs, expectations, and applicable requirements.

4.2 Establishing systematic IP management

IP management should take into account the activities, processes and supports that are required, how they interact and how continuous improvement can be achieved in accordance to this document.

In the context of IP management, the organization should decide whether to make an innovation outcome publicly available without restriction or whether to protect it. If the decision is made to protect the innovation then the different forms of IP protection (e.g. copyright, trade secrets, trademarks, patents and designs) should be considered. IP management should also account for the fact that some forms of IPR may provide a positive right for the owner to use what is protected by the particular form of IPR and as well may provide the right to exclude third parties from using what is protected without consent of the IPR owner.

The organization should provide measures to manage both, the potential positive and negative aspects of IP and IPR.

4.3 IP management responsibility

4.3.1 Leadership and commitment

Top management should ensure that the responsibilities and authority for relevant roles are assigned and communicated within the organization.

Top management should demonstrate leadership and commitment with respect to IP management by:

- a) ensuring IP policy and objectives are established;
- b) establishing and implementing an IP strategy which is aligned with and supportive of the innovation strategy;
- c) ensuring the established IP policy and objectives are aligned and evolve with the strategic direction of the organization;
- d) ensuring the integration of IP management activities into the organization's innovation processes;
- e) ensuring the resources and capabilities needed for IP management are available;
- f) communicating the importance of effective IP management throughout the organization;
- g) ensuring IP management achieves its intended outcome(s);
- h) directing and supporting persons, e.g. sustained training and education in IP, to contribute to the effectiveness of IP management;
- i) promoting continual improvement.

4.3.2 Organizational roles and responsibilities

IP management responsibilities related to innovation should include:

- a) establishing appropriate activities and related support for managing IP;
- b) defining what innovation outputs should be made publicly available without restriction or protected, and if so, when, how (e.g. patent, copyright, design, trademark or trade secret) and where;
- c) establishing and maintaining an inventory of the organization's IP assets to ensure controlled access to it by persons, internally and externally, when necessary for the organization's work;

- d) subject to sub [clause 4.7](#), continuously monitoring and analyzing IP in the public domain that is relevant for the organization, as input to innovation activities as well as to avoid potential infringement or to provide innovation reference and inspiration;
- e) subject to sub [clause 4.7](#), managing potential infringements of the organization's IP by other parties, monitoring the development and differences of relevant national legislation and other internationally applicable legal and regulatory requirements to current and future operations and markets;
- f) identifying and reporting IP risks and opportunities to interested parties (e.g. the board of directors, share holders, other functions of the organization);
- g) realizing value, financial or non-financial, internal and external, to the organization through IP, e.g. reputational, financial, collaborative, and human capital;
- h) conducting other IP management activities, including protecting trade secrets, idea management, clarifying ownership in relation to external partners, e.g. in collaborative innovation projects;
- i) establishing awareness and providing training as necessary within the organization.

IP management responsibilities should be clearly identified, documented and shared with the rest of the organization, in particular in the framework of their interactions with other functions in the organization.

Roles and responsibilities for IP management activities can be assigned: a) as part of existing roles, such as roles related to specific functions or units; or b) as dedicated roles with a focus on general IP management or specific IP management initiatives and activities. These responsibilities can be assumed by a single person or a team internal or external.

The IP management function can either report to the top management team, be included in the top management team, or can be assumed by the top management itself.

4.4 Culture

The organization should promote an organizational culture that supports the effective management of IP.

4.4.1 Awareness

For the effective establishment, implementation, maintenance, and continual improvement of the management of IP, the organization should promote IP awareness throughout the organization by:

- a) obtaining approval and oversight of the organization's policy and processes for the strategic management of IP by the organization's top management;
- b) designating a member of the senior management team accountable for implementing the organization's policy and processes for the management of IP;
- c) providing employees with an understanding of IP management policies and processes, their purpose and specific expectations related to their role requirements and how they contribute to the effectiveness of IP management in their day-to-day work;
- d) ensuring employees across all areas understand the IP specific business processes and methods, and the implications and consequences of not conforming to the organization's requirements for the management of IP.

4.4.2 Work environment

For the effective establishment, implementation, maintenance, and continual improvement of the management of IP, the organization should provide and maintain an enabling work environment by:

- a) encouraging all levels of management to promote and demonstrate their commitment to the management of IP having regard to the consequences of failing to do so;
- b) providing the infrastructure, resources, training, and tools necessary for the effective and efficient operation of its processes for the management of IP;
- c) empowering employees with the responsibility for making prudent decisions that ensure proper management of IP in their day-to-day work;
- d) encouraging appropriate participation and feedback by employees in IP management processes;
- e) considering incentives and programs to recognize individual and/or team achievements in the management of IP;
- f) establishing human resources processes to address IP considerations for onboarding new employees and for departing employees (e.g. for trade secrets confidentiality and disclosure of information).

4.5 Human capital

The organization should ensure the availability of skilled resources to support the effective management of IP.

4.5.1 People

For the effective establishment, implementation, maintenance, and continual improvement of the management of IP, the organization should:

- a) identify, provide and ensure the availability of the necessary people for each activity or stage in the management of IP;
- b) consider the capabilities of, and constraints on, existing internal resources;
- c) consider multi-disciplinary assistance in addition to IP strategy competence and/or expert opinions that could or should be obtained from external providers;
- d) consider a reporting mechanism for IP governance to the board.

4.5.2 Knowledge and competence

For the effective establishment, implementation, maintenance, and continual improvement of the management of IP, the organization should:

- a) identify what knowledge is necessary and ensure that this knowledge is maintained and made available (for example, by utilizing published guidance available from various organizations and government entities to gain an understanding of the elements of IP management);
- b) manage the changing requirements for IP management through a consideration of employees' current knowledge and determining how to acquire or to provide access to additional knowledge;
- c) determine the necessary IP management competence of employees related to their day-to-day work.