
Knowledge management systems — Requirements

Systèmes de management des connaissances — Exigences

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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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 260, *Human resource management*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

0.1 Purpose

The purpose of this ISO management system standard for knowledge management is to support organizations to develop a management system that effectively promotes and enables value-creation through knowledge.

Knowledge management is a discipline focused on ways that organizations create and use knowledge. Knowledge management has no single accepted definition and no global standards predate this management system standard. There are many well-known barriers to successful knowledge management which still need to be overcome, many confusions with other disciplines such as information management, and many common misconceptions about how to do knowledge management, for example the view that simply buying a technology system will be enough for knowledge management to add value.

Each organization will craft a knowledge management approach, with respect to its own business and operational environment, reflecting their specific needs and desired outcomes

The intent of this document is to set sound knowledge management principles and requirements

- a) as guidance for organizations that aim to be competent in optimizing the value of organizational knowledge;
- b) as a basis for auditing, certifying, evaluating and recognizing such competent organizations by internal and external recognized auditing bodies.

0.2 The importance of knowledge management

- a) The aim of work is to produce valuable results. Valuable results are derived from applied knowledge. Organizational knowledge is becoming a key differentiator for effectiveness, increased collaboration and competition.
- b) Knowledge work is increasingly important in many societies and organizations. Many economies aspire to become knowledge economies, where knowledge is the main source of wealth. In this context, knowledge becomes a core asset for organizations. Knowledge is especially important in many areas: it allows effective decisions to be made, supports the efficiency of processes and contributes to their enhancement, creates resilience and adaptability, creates competitive advantage and may even become a product in its own right.
- c) An increased access to knowledge will create opportunities for the professional development of people in the organization through learning, practices and exchanges.
- d) Organizations can no longer rely on the spontaneous diffusion of knowledge to keep up with the pace of change. Instead knowledge must be deliberately created, consolidated, applied, and reused faster than the rate of change.
- e) Geographically dispersed and decentralized organizations, conducting the same processes and delivering the same services in multiple locations, can gain tremendous advantage through sharing practices, expertise and learning across organizational boundaries.
- f) Workforce attrition and turnover in today's society has implications for knowledge management. In many organizations, critical knowledge is often siloed and/or retained by experts, at the risk of being lost when the organization changes or these experts leave.
- g) Effective knowledge management supports collaboration between different organisations to achieve shared objectives.

Knowledge is an intangible organizational asset that needs to be managed like any other asset. It needs to be developed, consolidated, retained, shared, adapted and applied so that workers can make effective decisions and take aligned actions, solving problems based on the experience of the past and

new insights into the future. Knowledge management is a holistic approach to improving learning and effectiveness through optimization of the use of knowledge, in order to create value for the organization. Knowledge management supports existing process and development strategies. As such, it needs to be integrated with other organizational functions.

0.3 Guiding principles

- a) Nature of knowledge: knowledge is intangible and complex; it is created by people.
- b) Value: knowledge is a key source of value for organizations to meet their objectives. The determinable value of knowledge is in its impact on organizational purpose, vision, objectives, policies, processes and performance. Knowledge management is a means of unlocking the potential value of knowledge.
- c) Focus: knowledge management serves the organizational objectives, strategies and needs.
- d) Adaptive: there is no one knowledge management solution that fits all organizations within all contexts. Organizations may develop their own approach to the scope of knowledge and knowledge management and how to implement these efforts, based on the needs and context.
- e) Shared understanding: people create their own knowledge by their own understanding of the input they receive. For shared understanding, knowledge management should include interactions between people, using content, processes and technologies where appropriate.
- f) Environment: knowledge is not managed directly; knowledge management focuses on managing the working environment, thus nurturing the knowledge lifecycle.
- g) Culture: culture is critical to the effectiveness of knowledge management.
- h) Iterative: knowledge management should be phased, incorporating learning and feedback cycles.

0.4 Range of knowledge management

Knowledge management varies between different organizations.

[Annex A](#) explains the range, viewing the various states of knowledge as a continuum.

[Annex B](#) explains knowledge management areas of interest, comparing it with adjacent disciplines.

0.5 Summary

This document defines the requirements for knowledge management systems in organizations, promising successful implementation of knowledge management. This document, however, maintains flexibility within the context of the requirements that enables conformity for every type of organization and alignment with all characteristics and needs.

Knowledge management systems — Requirements

1 Scope

This document sets requirements and provides guidelines for establishing, implementing, maintaining, reviewing and improving an effective management system for knowledge management in organizations. All the requirements of this document are applicable to any organization, regardless of its type or size, or the products and services it provides.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/>

3.1

organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.8)

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

3.2

interested party (preferred term)

stakeholder (admitted term)

person or *organization* (3.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity

Note 1 to entry: Everyone is potentially an interested party in knowledge management. Specific knowledge management initiatives will involve specific interested parties. For example, workers, top management, managers of projects/departments/work streams, external customers and clients, investors, partners and suppliers.

3.3

requirement

need or expectation that is stated, generally implied or obligatory

Note 1 to entry: “Generally implied” means that it is custom or common practice for the organization and interested parties that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, for example in *documented information* (3.11).

3.4 management system

set of interrelated or interacting elements of an *organization* (3.1) to establish *policies* (3.7), and *objectives* (3.8) and *processes* (3.12) to achieve those *objectives*

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning and operation.

Note 3 to entry: The scope of a management system can include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

Note 4 to entry: A system can include human and group dynamics and behaviours.

3.5 top management

person or group of people who directs and controls an *organization* (3.1) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the *organization*.

Note 2 to entry: If the scope of the *management system* (3.4) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

3.6 effectiveness

extent to which planned activities are realized and planned results achieved

3.7 policy

intentions and direction of an *organization* (3.1), as formally expressed by its *top management* (3.5)

3.8 objective

result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels [such as strategic, organization-wide, project, product and process (3.12)].

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, a *knowledge management* (3.26) objective, or by the use of other words with similar meaning (e.g. aim, goal, or target).

Note 4 to entry: In the context of knowledge management systems, knowledge management objectives are set by the organization, consistent with the knowledge management policy, to achieve specific results.

3.9 risk effect of uncertainty

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential events (ISO Guide 73:2009, 3.5.1.3) and consequences (ISO Guide 73:2009, 3.6.1.3), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood (ISO Guide 73:2009, 3.6.1.1) of occurrence.

3.10

competence

ability to apply *knowledge* (3.25) and *skills* (3.30) to achieve intended results

3.11

documented information

information required to be controlled and maintained by an *organization* (3.1) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media, and from any source.

Note 2 to entry: Documented information can refer to:

- the *management system* (3.4), including related *processes* (3.12);
- information created in order for the organization to operate (documentation);
- evidence of results achieved (records).

3.12

process

set of interrelated or interacting activities which transforms inputs into outputs

3.13

performance

measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to the management of activities, *processes* (3.12), products (including services), systems or *organizations* (3.1).

3.14

outsource, verb

make an arrangement where an external *organization* (3.1) performs part of an organization's function or *process* (3.12)

Note 1 to entry: An external organization is outside the scope of the management system (3.4), although the outsourced function or process is within the scope.

3.15

monitoring

determining the status of a system, a *process* (3.12) or an activity

Note 1 to entry: To determine the status, there may be a need to check, supervise or critically observe.

3.16

measurement

process (3.12) to determine a value

3.17

audit

systematic, independent and documented *process* (3.12) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines).

Note 2 to entry: An internal audit is conducted by the organization itself, or by an external party on its behalf.

Note 3 to entry: "Audit evidence" and "audit criteria" are defined in ISO 19011.

3.18

conformity

fulfilment of a *requirement* (3.3)

3.19

non-conformity

non-fulfilment of a *requirement* (3.3)

3.20

correction

action to eliminate a detected *nonconformity* (3.19)

3.21

corrective action

action to eliminate the cause of a *nonconformity* (3.19) and to prevent recurrence

3.22

continual improvement

recurring activity to enhance *performance* (3.13)

3.23

collaboration

deliberate approach to working together on an agreed common purpose across boundaries

Note 1 to entry: Boundaries may be functional, organizational or geographic, or between *organizations* (3.1). Collaboration often depends on a healthy *knowledge management culture* (3.27) to facilitate the exchange and co-creation of *knowledge* (3.25) between the parties engaging in collaboration.

3.24

information

meaningful data

[SOURCE: ISO 9000:2015, 3.8.2]

3.25

knowledge

human or organizational asset enabling effective decisions and action in context

Note 1 to entry: Knowledge can be individual, collective or organizational.

Note 2 to entry: There are diverse views on the scope covered within knowledge, based on context and purpose. The definition above is general as to the various perspectives. Examples of knowledge include insights and know-how.

Note 3 to entry: Knowledge is acquired through learning or experience.

3.26

knowledge management

management with regard to knowledge

[SOURCE: ISO 30400:2016, 14.1, modified]

Note 1 to entry: It uses a systemic and holistic approach to improve results and learning.

Note 2 to entry: It includes optimizing the identification, creation, analysis, representation, distribution and application of knowledge to create organizational value.

3.27

knowledge management culture

elements of the *organizational culture* (3.29), supportive of the values, behaviours and activities associated with the *knowledge management system* (3.28)

3.28**knowledge management system**

part of a *management system* (3.4) with regard to *knowledge* (3.25)

Note 1 to entry: The system elements include the organization's *knowledge management culture* (3.27), structure, governance and leadership; roles and responsibilities; planning, technology, processes and operation.

3.29**organizational culture**

values, beliefs and practices that influence the conduct and behaviour of people and organizations

[SOURCE: ISO 30400:2016, 3.2]

Note 1 to entry: *knowledge management culture* (3.27) is a supportive element of the organizational culture.

3.30**skill**

learned capacity to perform a task to a specified expectation

4 Context of the organization**4.1 Understanding the organization and its context**

The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcome(s) of its knowledge management system.

The outcomes of the knowledge management system are a means to achieve organizational outcomes, and not an end in themselves.

NOTE Issues can include positive and negative factors or conditions for consideration.

4.2 Understanding the needs and expectations of interested parties (stakeholders)

The organization shall determine:

- the interested parties that are relevant to the knowledge management system;
- the relevant requirements of these interested parties.

These requirements shall be analysed, prioritizing the main areas and contexts relevant to the organization and the knowledge management system.

NOTE The defined needs and expectations are structured in terms of business and organizational performance, rather than knowledge management needs. For example, a need might refer to reduced duration of product development rather than fast document retrieval.

The requirements of the interested parties need to be assessed in the organizational context (e.g. culture, environment, infrastructure).

4.3 Determining the scope of the knowledge management system

The organization shall determine the range and applicability of the knowledge management system to establish its scope. Within this scope, and with respect to the organizational purpose, the organization shall identify, evaluate and prioritize the knowledge domains which have the greatest value to the organization and its interested parties, and to which the knowledge management system should be applied.

When determining this scope, the organization shall consider:

- the external and internal issues and context referred to in 4.1;

— the requirements referred to in 4.2.

The scope shall be available as documented information.

4.4 Knowledge management system

4.4.1 General

The organization shall establish, implement, maintain and continually improve a knowledge management system, including the processes needed and their interactions, in accordance with the requirements of this document.

4.4.2 to 4.4.4 include requirements, each representing a dimension of the knowledge management system, which are interdependent. Acknowledging and incorporating these dimensions within the knowledge management system and putting them in place through a managed change process is required for the implementation of an effective and holistic knowledge management system within the organization.

4.4.2 Knowledge development

The organization shall demonstrate that the knowledge management system covers the following activities, for effectively managing knowledge through its stages of development **through systematic activities and behaviours, supporting the knowledge management system objectives and covering the prioritized knowledge domains defined in 4.3:**

- a) **Acquiring new knowledge:** means to provide the organization with knowledge that was previously unknown or unavailable within the organization.

NOTE 1 Example activities include knowledge creation; innovation; research; knowledge discovery and detection; lesson learning; knowledge acquisition from external resources; feedback collection; adaptation of existing knowledge to new applications.

- b) **Applying current knowledge:** means to make knowledge effective, integrating the current relevant knowledge of the organization in order to enable improved actions and decision making.

NOTE 2 Example activities include knowledge transfer; knowledge consolidation; knowledge sharing; knowledge codifying; knowledge reuse; creative problem solving.

- c) **Retaining current knowledge:** means to safeguard the organization from the risks of knowledge loss.

NOTE 3 Example activities include documenting; securing expert knowledge against worker turnover; information backup; succession plans; coaching.

- d) **Handling outdated or invalid knowledge:** means to protect the organization from making mistakes or working inefficiently, as a result of use of knowledge inappropriate within the current organizational context.

NOTE 4 Example activities include knowledge deletion; curation; archiving; knowledge updating; re-training according to knowledge changes.

4.4.3 Knowledge conveyance and transformation

The organizational knowledge management system shall include activities and behaviours, supporting all different types of knowledge flows, **through systematic activities and behaviours, supporting the knowledge management system objectives and covering the prioritized knowledge domains defined in 4.3:**

- a) **Human interaction:** exchange and co-creation of knowledge through conversations and interactions; between individuals, teams and across the organization.

EXAMPLES Community of practice; brainstorming sessions; collaborative teams; knowledge/world cafes; shift handover; succession planning; mentoring; sense making; storytelling.

- b) **Representation:** making knowledge available through demonstrating, recording, documenting and/or codifying.

EXAMPLES Designing or writing procedures and guidelines; capturing lessons; recorded job handover; leading by example.

- c) **Combination:** synthesis, curating, formalizing, structuring or classifying of codified knowledge, making the knowledge accessible and findable.

EXAMPLES Classification and taxonomy; tagging; summarizing and structuring content; refreshing captured knowledge.

- d) **Internalization and learning:** reviewing, assessing and absorbing knowledge; incorporating it into practice.

EXAMPLES Searching for and seeking knowledge; before action review; briefing; checklists; use of simulations; employee on-boarding; e-learning; job shadowing.

4.4.4 Knowledge management enablers

The organizational knowledge management system shall include and integrate elements of all the following enablers to create an effective knowledge management system. This shall **support the knowledge management system objectives and cover the prioritized knowledge domains defined in 4.3:**

- a) **Human capital:** roles and accountabilities, including all knowledge management system stakeholders; making sure that knowledge management is encouraged within the organization (covered in detail in [Clause 5](#)).

NOTE 1 Example enablers include chief knowledge officer; community of practice facilitator; knowledge management involvement is part of employee's annual interview and assessment.

- b) **Processes:** defined knowledge activities applied and embedded within organizational processes, including procedures, instructions, methods and measures (covered in [Clause 8](#)).

NOTE 2 Example enablers include knowledge discovery and detection; lessons learned from failures and success.

- c) **Technology and infrastructure:** digital channels, virtual and physical workspace and other tools.

NOTE 3 Example enablers include mobile applications; portals; WIKIs; search engines; cloud computing; big data platforms; collaborative workspaces; informal meeting areas.

- d) **Governance:** Strategy, expectations and means of ensuring the knowledge management system is working in alignment (covered in detail in [Clauses 5 to 10](#)).

NOTE 4 Example enablers include knowledge management strategy; policies; service level agreement; code of conduct.

- e) **Knowledge management culture:** Attitudes and norms regarding sharing, learning from mistakes (covered in detail in [4.5](#)).

NOTE 5 Example enablers include admitting and explaining a mistake is rewarded rather than punished.

4.5 Knowledge management culture

Embedding a knowledge management culture across the organization is critical for sustained application of knowledge management. A culture where connections and knowledge activities are encouraged, and knowledge is valued and actively used, will support the establishment and application of the knowledge management system within the organization.

The organization shall demonstrate that organizational culture has been addressed as a means to support the knowledge management system. Some options for addressing the culture are discussed in [Annex C](#).

5 Leadership

5.1 Leadership and commitment

Top management shall demonstrate leadership and commitment with respect to the knowledge management system by:

- fostering organizational values which enhance trust as a key element for knowledge management;
- ensuring that the knowledge management policy and knowledge management objectives are established, are compatible and are aligned with the strategic direction of the organization and can be evaluated;
- ensuring the integration of the knowledge management system requirements into the organization's business and project processes;
- ensuring that the resources needed for the knowledge management system are available;
- communicating the importance of effective knowledge management and of conforming to, or exceeding, the knowledge management system requirements;
- managing the process of change towards adoption and application of the knowledge management system, and towards the cultivation of a culture that values, supports and enables knowledge management;
- ensuring that the knowledge management system achieves its intended outcome(s);
- directing, motivating, inspiring, empowering and supporting persons to contribute to the effectiveness of the knowledge management system;
- promoting continual improvement of the knowledge management system;
- supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

NOTE Reference to "business" in this document can be interpreted broadly to mean those activities that are core to the purposes of the organization's existence.

5.2 Policy

Top management shall establish a knowledge management policy that:

- a) is appropriate to the purpose of the organization;
- b) provides a framework and guiding principles for setting, reviewing and achieving knowledge management objectives;
- c) includes a commitment to satisfy applicable regulatory and other requirements;
- d) sets expectations for all workers with regard to use of the knowledge management system and the cultivation of a culture that values knowledge;
- e) includes a commitment to continual improvement of the knowledge management system;
- f) manages the balance between knowledge sharing and knowledge protection.

The knowledge management policy shall:

- be available as documented information;
- be communicated, understood and applied within the organization;
- be available to interested parties, as appropriate.

5.3 Roles, responsibilities and authorities

Top management shall ensure that the responsibilities and authorities for relevant roles within the knowledge management system are assigned and communicated within the organization and with external stakeholders as required.

Top management shall assign the responsibility and authority for:

- a) ensuring that the knowledge management system conforms to the requirements of this document;
- b) ensuring the engagement of people and the effective application of the knowledge management system within the organization;
- c) reporting on the performance of the knowledge management system to top management.

6 Planning

6.1 Actions to address risks and opportunities

When planning for the knowledge management system, the organization shall consider the issues referred to in 4.1 and the requirements referred to in 4.2 and determine the risks and opportunities that need to be addressed to:

- give assurance that the knowledge management system can achieve its intended outcome(s);
- prevent, or reduce, undesired effects;
- achieve continual improvement.

The organization shall plan:

- a) actions to address these risks and opportunities;
- b) how to:
 - integrate and implement the actions into its knowledge management system processes;
 - evaluate the effectiveness of these actions.

6.2 Knowledge management objectives and planning to achieve them

The organization shall establish knowledge management objectives at relevant functions and levels.

The knowledge management objectives shall:

- a) serve business needs and align to business objectives (see 4.1);
- b) meet the prioritized requirements of the interested parties (see 4.2);
- c) be consistent with the knowledge management policy;
- d) take into account applicable requirements;
- e) be measurable (if practicable), in terms of benefits and impacts;

- f) be monitored;
- g) be communicated;
- h) be updated as appropriate.

The organization shall retain documented information on the knowledge management objectives.

Objectives may be quantitative or qualitative, and relate to issues such as safety, time, risk, quality, cost, market share, customer experience.

The objectives may be of different types, as business results, organizational results, customer related results, and/or social and environmental results.

When planning how to achieve its knowledge management objectives, the organization shall determine:

- what will be done and by whom;
- who will be accountable;
- what resources will be required;
- who will be responsible;
- when it will be completed;
- how the results will be evaluated.

7 Support

7.1 Resources

The organization shall determine and provide the resources (e.g. funding, workforce, technology, management commitment) needed for the establishment, implementation, maintenance, measurement, reporting and continual improvement of the knowledge management system.

7.2 Competence

The organization shall:

- determine the necessary competence of person(s) doing work under its control that affects its knowledge performance;
- consider the competence level required for various types of workers, where appropriate, including:
 - a) those accountable for the design, delivery and continual improvement of the knowledge management system and the associated supporting culture change;
 - b) those with accountable roles within the knowledge management system;

NOTE 1 Example roles are listed in [4.4.3](#).

- c) participants who engage with and use the knowledge management system as part of completing their tasks and work.
- ensure that these persons are competent on the basis of appropriate education, training, or experience;
- where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken;
- retain appropriate documented information as evidence of competence.

NOTE 2 Applicable actions can include, for example, the provision of training to, the mentoring of, or the reassignment of currently employed persons; or the hiring or contracting of competent persons.

7.3 Awareness

Persons doing work under the organization's control and other interested parties, where relevant, shall be aware of:

- the knowledge management policy;
- their contribution and accountabilities to the effectiveness of the knowledge management system, including the benefits of improved knowledge performance;
- the implications of not conforming with the knowledge management system requirements.

7.4 Communication

The organization shall determine the internal and external communications relevant to the knowledge management system, including:

- on what it will communicate;
- when to communicate;
- with whom to communicate;
- how to communicate.

Communication will serve all stages, including building the knowledge management system, managing the change to embed it, and nurturing sharing and usage.

NOTE 1 Communication is a complete cycle, including transmission, reception, understanding, reflection and feedback.

NOTE 2 Effective communication includes constructive dialogue, both verbally and non-verbally.

7.5 Documented information

NOTE This subclause sets requirements for specific documentation of the knowledge management system, and does not refer to documented information in general.

7.5.1 General

The organization's knowledge management system shall include:

- a) documented information required by this document;
- b) documented information determined by the organization as being necessary for the effectiveness of the knowledge management system.

NOTE The extent of documented information for a knowledge management system can differ from one organization to another due to:

- the size of organization and its type of activities, processes, products and services;
- the complexity of processes and their interactions;
- the competence of persons.

7.5.2 Creating and updating

When creating and updating documented information the organization shall ensure appropriate:

- identification and description (e.g. a title, date, author, or reference number);
- format (e.g. language, software version, graphics) and media (e.g. paper, electronic);
- review and approval for suitability and adequacy.

7.5.3 Control of documented information

Documented information required by the knowledge management system and by this document shall be controlled to ensure:

- a) it is available and suitable for use, where and when it is needed;
- b) it is adequately protected (e.g. from loss of confidentiality, improper use, loss of integrity).

For the control of documented information, the organization shall address the following activities, as applicable:

- distribution, access, retrieval and use;
- storage and preservation, including preservation of legibility;
- control of changes (e.g. version control);
- retention and disposal.

Documented information of external origin determined by the organization to be necessary for the planning and operation of the knowledge management system shall be identified, as appropriate, and controlled.

NOTE Access can imply a decision regarding the permission to view the documented information only, or the permission and authority to view and change the documented information.

8 Operation

The organization shall plan, implement and control the processes needed to meet requirements, and to implement the actions determined in [6.1](#), by:

- establishing criteria for the processes;
- implementing control of the processes in accordance with the criteria;
- keeping documented information to the extent necessary to have confidence that the processes have been carried out as planned.

The organization shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

The organization shall ensure that outsourced processes align with the knowledge management system and are controlled.

9 Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation

The organization shall determine:

- what needs to be monitored and measured. This shall include measurement of conformity with the requirements of this document and evidence of added value to the relevant stakeholders;
- the methods for monitoring, measurement, analysis and evaluation, as applicable, to ensure valid results;
- when the monitoring and measuring shall be performed;
- when the results from monitoring and measurement shall be analysed and evaluated.

The organization shall retain appropriate documented information as evidence of the results.

The organization shall evaluate the knowledge performance and the effectiveness of the knowledge management system.

9.2 Internal audit

9.2.1 The organization shall conduct internal audits at planned intervals to provide information on whether the knowledge management system:

- a) conforms to:
 - the organization's own requirements for its knowledge management system;
 - the requirements of this document;
- b) is effectively implemented and maintained.

9.2.2 The organization shall:

- a) plan, establish, implement and maintain an audit programme(s) including the frequency, methods, responsibilities, planning requirements and reporting, which shall take into consideration the importance of the processes concerned and the results of previous audits;
- b) define the audit criteria and scope for each audit;
- c) select auditors and conduct audits to ensure objectivity and the impartiality of the audit process;
- d) ensure that the results of the audits are reported to relevant management;
- e) retain documented information as evidence of the implementation of the audit programme and the audit results.

9.3 Management review

Top management shall review the organization's knowledge management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

The management review shall include consideration of:

- a) the status of actions from previous management reviews;
- b) changes in external and internal issues that are relevant to the knowledge management system;

- c) information on the knowledge management performance, including trends in:
 - nonconformities and corrective actions;
 - monitoring and measurement results;
 - audit results;
- d) opportunities for continual improvement.

The outputs of the management review shall include decisions related to continual improvement opportunities and any need for changes to the knowledge management system.

The organization shall retain documented information as evidence of the results of management reviews.

10 Improvement

10.1 Nonconformity and corrective action

When a nonconformity occurs, the organization shall:

- a) react to the nonconformity and, as applicable:
 - take action to control and correct it and learn from it;
 - deal with the consequences;
- b) evaluate the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:
 - reviewing the nonconformity;
 - determining the causes of the nonconformity;
 - determining if similar nonconformities exist, or could potentially occur;
 - identifying any opportunity that may arise from the nonconformity;
- c) implement any action needed;
- d) review the effectiveness of any corrective action taken;
- e) make changes to the knowledge management system, if necessary.

Corrective actions shall be appropriate to the effects of the nonconformities encountered.

The organization shall retain documented information as evidence of:

- the nature of the nonconformities and any subsequent actions taken;
- the results of any corrective action.

10.2 Continual improvement

The organization shall continually improve the suitability, adequacy, efficiency and effectiveness of the knowledge management system.

The organization shall plan, implement and control processes needed to ensure continual improvement.

Annex A

(informative)

The knowledge spectrum — the range of knowledge management

Knowledge occurs in many types and forms that constitute a continuum from clearly codified to uncodified, experience and/or action-based knowledge. It is important to acknowledge the diversity of the forms of knowledge and the fact that knowledge can be transformed from one form to another depending on the context and the value it carries. It is one of the core objectives of knowledge management to make sure that the types and forms and their transformations are consistent with the organizational needs and deliver value.

For instance, the spectrum can start with knowledge that the individual is not even aware of, through knowledge they are aware of but cannot express in words or symbols (e.g. judgement call or intuition), to knowledge they have and find difficult to explain. It finishes, on the other end of the spectrum, with documented or recorded knowledge (such as textbooks, document files or open digital learning content) and even knowledge that has been codified and structured into well-defined rules (e.g. musical scores, manuals, diagrams, programming algorithms).

Knowledge management deals with activities associated with all types of knowledge within this range: leveraging existing knowledge; creating new knowledge; and transformation of knowledge along this continuum. Knowledge management, among other activities, aims at deciding where on this spectrum different areas of knowledge are best positioned and what activities should be taken in order to optimally understand the knowledge, apply it and/or possibly transfer it among stakeholders. This will vary depending on the context and how it is interpreted and adapted.

Understanding knowledge as a continuum within this range gives a deeper appreciation of the essence of knowledge management and it matters less what terms are used to define it.

Annex B **(informative)**

Relationship between knowledge management and adjacent disciplines

The range of knowledge management can be explained by comparing it with related disciplines, as follows:

a) **Information management**

Knowledge management and information management are often confused, therefore it is important to distinguish between these two disciplines.

Knowledge management includes the codification of knowledge and therefore involves the creation of information. Once knowledge is codified (e.g. in a document), it is subject to information management processes such as storage and retrieval. It is also part of knowledge management, where knowledge management is concerned with the content of codified knowledge and ensuring that it supports good decisions and effective action, tailored to the user's context and understanding.

Much existing knowledge within an organisation is not codified and therefore not subject to information management processes. Even when knowledge is codified, it can never be captured completely, whatever resources are invested. Experience and insights, for example, are covered by knowledge management, and not by information management. So although elements of information management are used in knowledge management, information management alone cannot meet the requirements for a knowledge management system.

b) **Data management**

Knowledge management and data management are generally considered separate topics. However, aspects of data management that may be referred to as knowledge management include the combination of data through linked data, and the use of algorithms to mine and analyze data and provide new insights.

c) **Business intelligence**

Business intelligence is related to knowledge management as its goal is supporting creation of new knowledge and insights. This is achieved primarily by analysing data and information to identify patterns.

d) **Customer relationship management**

Customer relation management handles data, information and knowledge related to customers and other interested parties. Knowledge management can therefore serve as a means to better customer relationship management.

e) **Learning, organizational development and training**

Both knowledge management and learning, organizational development and training disciplines enable organizations and individuals to understand the gaps between the present and the future in terms of knowledge needs. While training uses learning programs to bridge the gap at the individual level, knowledge management facilitates knowledge acquisition in various forms and levels.

Learning services for non-formal education and training are already covered by ISO 29990.