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Information technology — Service management —

Part 16: Guidance on sustainability within a service management system based on ISO/IEC 20000-1

Technologies de l'information — Gestion des services —

Partie 16: Lignes directrices pour un système de management des services durable basé sur l'ISO/IEC 20000-1

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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 document 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 or www.iec.ch/members_experts/refdocs).

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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. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information Technology*, SC 40, *IT Service Management and IT Governance*.

A list of all parts in the ISO/IEC 20000 series can be found on the ISO and IEC websites.

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 and www.iec.ch/national-committees.

Introduction

Climate change and the decline of biodiversity in the last few decades have highlighted the effect of human actions on the planet and life. Recognizing this impact, the United Nations (UN) has called for a global partnership for sustainable development to improve human life and protect the environment. Sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The UN 2030 Agenda for Sustainable Development, which is adopted by all member states, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. This agenda includes 17 Sustainable Development Goals (SDGs) across three interdependent dimensions of sustainability, which are:

- environmental;
- social; and
- economic.

Many national and international standards, guidelines and documents have been published on how to better address environmental, social and economic world issues. In response to an ISO initiative (the London Declaration^[23]), ISO/IEC 20000-1 is an example of where sustainability can be built into the existing structure. Information technology (IT) has a critical role to play in the operation of services within any organization and has great potential to drive sustainable development.

This document provides guidance for sustainability within a service management system (SMS). Sustainability actions can span across diverse areas, including eco-responsibility, eco-labelling of products and services, moving to net zero greenhouse gas (GHG) emissions (i.e. negating the amount of greenhouse gases produced by human activity), social responsibility, circular economy, long-term viability and organizational culture change to deal with the present and prepare for the future. As sustainability is applied to an SMS, this guidance will focus on the three sustainability dimensions and not the specific actions to support sustainable operations (e.g. eco-responsibility, GHG). An SMS aligned to the sustainability strategy of the organization extends the focus from service resilience to sustainable service delivery and operations.

Organizations, through strategic planning and top management commitment, can directly minimize the environmental, social and economic adverse effects of service delivery throughout the service lifecycle. This strategy is reflected in the service management objectives, service management plan and ongoing activities/operations needed for service delivery.

An SMS focused on sustainability will provide opportunities for ongoing visibility, control of services and continual improvement, leading to greater effectiveness, efficiency and reduction of the impact on global resources. These benefits can arise from optimized IT asset utilization, responsible procurement, sustainable supplier management, improving data centre facilities, and operations management in terms of electricity, water, HVAC (Heating, Ventilation, Air Conditioning), hardware components, etc.

ISO/IEC 20000-1 has been written generically, which means that the type, size or nature of the services delivered makes no difference when applying the requirements. This document, following the structure of ISO/IEC 20000-1, focuses on which areas to consider for improving sustainability within an SMS. It does not state any performance criteria across the dimensions of sustainability. The complexity of an SMS focused on sustainability will depend solely on the context of the organization, the scope of operation, compliance obligations, and the nature of the organizational activities, products and services.

[Figure 1](#) illustrates an SMS showing the clause content of ISO/IEC 20000-1. Numbers in parentheses in [Figure 1](#) indicate ISO/IEC 20000-1 clause numbers.

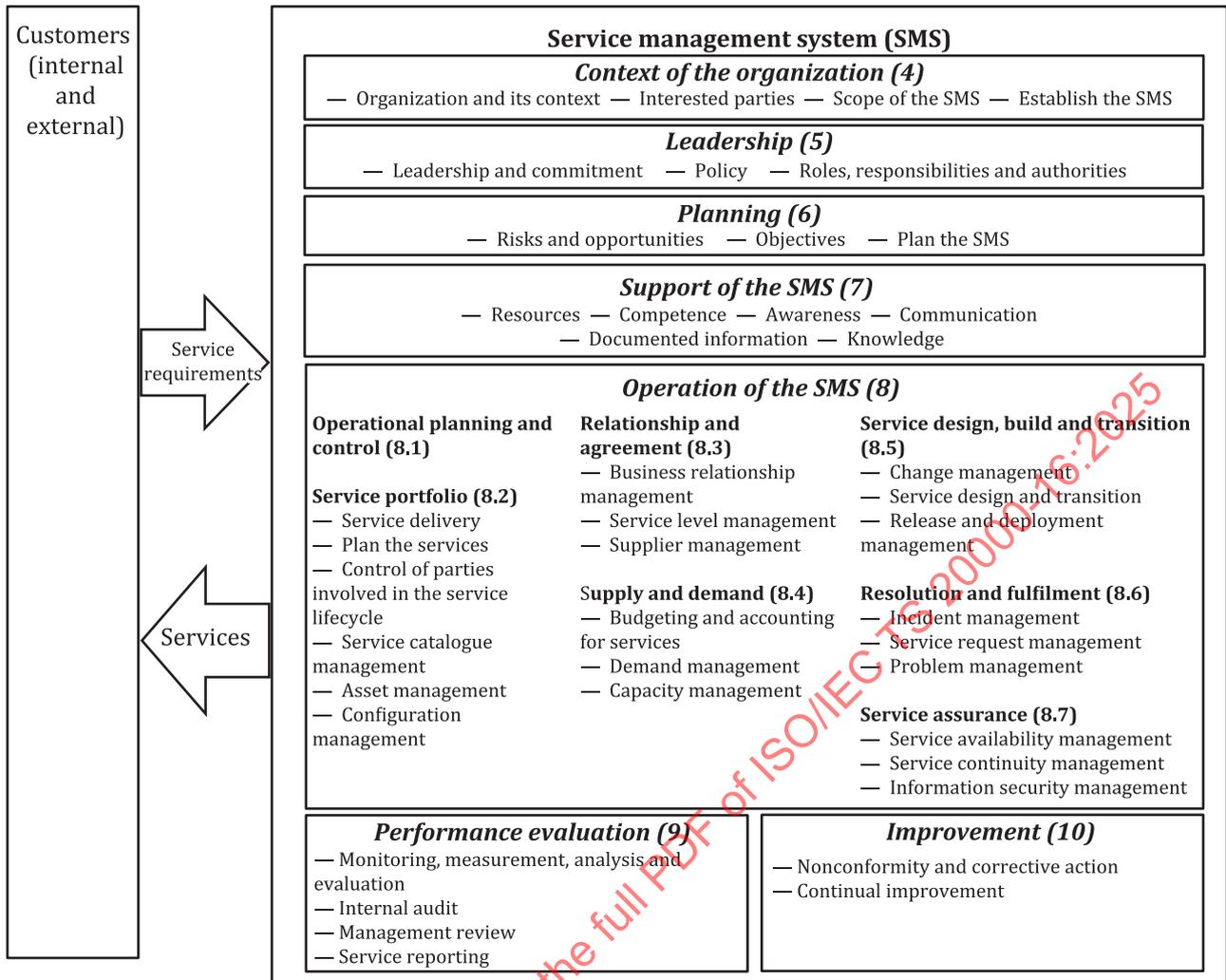


Figure 1 — Service management system (SMS)

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Information technology — Service management —

Part 16:

Guidance on sustainability within a service management system based on ISO/IEC 20000-1

1 Scope

1.1 General

This document provides guidance for including sustainability within a service management system (SMS) based on the requirements defined in ISO/IEC 20000-1. It is aimed at:

- organizations that are intending to implement the requirements of ISO/IEC 20000-1 and directly address sustainability;
- organizations that intend to leverage their existing SMS to enable sustainability actions and sustainable delivery;
- consultants, trainers and other experts supporting organizations that utilize ISO/IEC 20000-1, so that they can be informed on how to include sustainability actions in an SMS.

Sustainability in this context has three interdependent dimensions, which are environmental, social and economic. [Annex A](#) expands on the three dimensions with examples of each.

The guidance provided in this document aims to help organizations consider and address sustainability objectives as well as challenges related to their services. The complexity and detail surrounding the inclusion of sustainability within an SMS will vary and be dependent on the context of the organization, the scope of the SMS, compliance obligations and the nature of the services within the scope of the SMS.

1.2 Application

This document is intended to be used in conjunction with ISO/IEC 20000-1 to address sustainability objectives related to specific requirements in ISO/IEC 20000-1. As such, it is anticipated that the user of this document is aware of the requirements in ISO/IEC 20000-1. The suggestions included across clauses in this document will be most effective when applied to an SMS which is implemented according to the corresponding clauses in ISO/IEC 20000-1. Application of this guidance to an SMS according to ISO/IEC 20000-1 is therefore recommended.

This document supports and is an addition to the guidance already provided in ISO/IEC 20000-2, ISO/IEC 20000-3, ISO/IEC TS 20000-5 and other parts of the ISO/IEC 20000 series.

Organizations can use the guidance in this document to also address the new requirements identified in ISO/IEC 20000-1:2018/Amd 1:2024 and ISO's objectives to address climate change.

The recommendations in this document for improving sustainability within an SMS are not exclusive and can be implemented along with other sustainability initiatives.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 20000-1, *Information technology — Service management — Part 1: Service management system requirements*

ISO/IEC 20000-10, *Information technology — Service management — Part 10: Concepts and vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 20000-1, ISO/IEC 20000-10 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 adaptation

adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects or impacts

Note 1 to entry: Adaptation refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change.

[SOURCE: ISO/IWA 42:2022, 3.1.5]

3.2 bribery

offering, promising, giving, accepting or soliciting of an undue advantage of any value (which could be financial or non-financial), directly, or indirectly, and irrespective of location(s), in violation of applicable law, as an inducement or reward for a person acting or refraining from acting in relation to the performance of that person's duties

Note 1 to entry: The above is a generic definition. The meaning of the term "bribery" is as defined by the anti-bribery law applicable to the organization and by the anti-bribery management system designed by the organization.

[SOURCE: ISO 37001:2016, 3.1]

3.3 climate

statistical description of weather in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years

Note 1 to entry: The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization.

Note 2 to entry: The relevant quantities are most often near-surface variables such as temperature, precipitation and wind.

[SOURCE: ISO Guide 84:2020, 3.1.1]

3.4 climate change

change in climate that persists for an extended period, typically decades or longer

Note 1 to entry: Change in climate can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties.

Note 2 to entry: Climate change might be due to natural processes, internal to the climate system, or external forces such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use.

[SOURCE: ISO Guide 84:2020, 3.1.2, modified — "external forcings" changed to "external forces" in the definition.]

3.5 circular economy

economic system that systemically maintains a circular flow of resources, by regenerating, retaining or adding to their value while contributing to sustainable development

[SOURCE: ISO 5020:2022, 3.3.1]

3.6 eco-design

methodical approach that takes into consideration the environmental aspects of the design and development process with the aim of reducing the negative environmental impacts throughout the lifecycle of a product

[SOURCE: IEC 62430:2019]

3.7 ecolabel environmental label

claim which indicates the environmental aspects of goods or services

Note 1 to entry: An environmental label or declaration may take the form of a statement, symbol or graphic on a product or package label, in product literature, in technical bulletins, in advertising or in publicity, amongst other things.

Note 2 to entry: Ecolabels^[24] are an international method of showing compliance to various sustainability frameworks.

[SOURCE: ISO 20400:2017, 3.4, modified — Note 2 to entry has been added; the preferred term "environmental label" has been changed to an admitted term and "ecolabel" has been added as the preferred term.]

3.8 eco-responsibility

attitude, behaviour and activity of a person or an organization to make informed environmental, social and economic choices to position the protection of the planet first

3.9 environmental impact

change to the environment whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects

[SOURCE: ISO 14001:2015, 3.2.4]

3.10 greenhouse gas GHG

gaseous constituent of the atmosphere, natural or anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds

Note 1 to entry: Greenhouse gases caused by human activities and relevant for this document include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

[SOURCE: IWA 42:2022, 3.2.1]

3.11

resilience

ability to resist, adapt to, or quickly recover from potentially disruptive events or conditions, whether natural or anthropogenic, in order to maintain or restore the intended service

[SOURCE: ISO 21931-1:2022, 3.1.12]

3.12

social responsibility

responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that:

- contributes to sustainable development, including the health and the welfare of society;
- takes into account the expectations of stakeholders;
- is in compliance with applicable law and consistent with international norms of behaviour;
- is integrated throughout the organization and practised in its relationships.

Note 1 to entry: Activities include products, services and processes.

Note 2 to entry: Relationships refer to an organization's activities within its sphere of influence.

[SOURCE: ISO Guide 82:2019, 3.4]

3.13

supply chain

two-way relationship of organizations, people, processes, logistics, information, technology and resources engaged in activities and creating value from the sourcing of materials through the delivery of products or services

Note 1 to entry: The supply chain may include vendors, subcontractors, manufacturing facilities, logistics providers, internal distribution centres, distributors, wholesalers and other entities that lead to the end user.

[SOURCE: ISO 22300:2021, 3.1.271]

3.14

sustainability

state of the global system, including environmental, social and economic aspects, in which the needs of the present are met without compromising the ability of future generations to meet their own needs

Note 1 to entry: The environmental, social and economic aspects interact, are interdependent and are often referred to as the three dimensions of sustainability.

Note 2 to entry: Sustainability is the goal of sustainable development.

[SOURCE: ISO Guide 82:2019, 3.1]

3.15

sustainability aspect

aspect of an activity or goods or services that, during the life cycle of the activity, or goods or services, is related to sustainability, positively or negatively

[SOURCE: ISO 20400:2017, 3.34]

3.16

sustainability impact

positive or negative change to society, economy or the environment, wholly or partially resulting from past and present decisions and activities of an organization

[SOURCE: ISO 21401:2018, 3.39, modified — "accommodation establishment" has been changed to "organization" in the definition.]

3.17

sustainability indicator

indicator related to economic, environmental and social impacts

[SOURCE: ISO 6707-3:2022, 3.10.9]

3.18

sustainable development

development that meets the environmental, social and economic needs of the present without compromising the ability of future generations to meet their own needs

Note 1 to entry: Derived from the Brundtland Report.^[25]

[SOURCE: ISO Guide 82:2019, 3.2]

3.19

sustainable procurement

procurement that has the most positive environmental, social and economic impacts possible over the entire lifecycle

Note 1 to entry: Sustainable procurement involves the sustainability aspects related to the goods or services and to the suppliers along the supply chains.

Note 2 to entry: Sustainable procurement contributes to the achievement of organizational sustainability objectives and goals and to sustainable development in general.

[SOURCE: ISO 20400:2017, 3.38]

4 Context of the organization

4.1 Understanding the organization and its context

The organization should consider sustainability objectives and relevant sustainability-related regulations (local, regional, national or industry-specific) to determine the internal and external issues that can affect the outcomes of its SMS. Consideration should be given to any internal and external factors, impacting environmental, social or economic dimensions of sustainability.

The organization should determine whether climate change is a relevant issue for their SMS by including climate change/impact in their discussions and decision-making.

As a regulatory requirement to exhibit compliance on certain sustainability requirements, an organization can have a need to demonstrate an ecolabel, which is objective evidence of having complied with certain sustainability requirements, or certification to sustainability-related standards (e.g. ISO 14001). This can be applicable to the suppliers and partners of the organization as well.

4.2 Understanding the needs and expectations of interested parties

The organization should anticipate changing sustainability requirements via feedback from customers and interested parties. Sustainability requirements can also arise in response to organizational conditions that have altered (e.g. adaptation due to social pressures).

Relevant interested parties can have significant environmental, social and economic obligations or needs, including those relating to climate change (see [Annex A](#) for examples of each dimension). From an analysis, the organization should identify which of these will be addressed through the SMS. Examples of potential interested parties to be considered for specific sustainability requirements are:

- customers;
- owners/investors;
- parent or subsidiary organizations;

- workers within the organization, their representatives, apprentices;
- suppliers, their employees;
- partners;
- trade and professional associations;
- regulators (local, regional, national or international);
- non-governmental organizations;
- competitors;
- future generations.

4.3 Determining the scope of the service management system

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 4.3.

4.4 Service management system

The SMS should include specific sustainability actions to support the processes along with their interactions and the services within the defined scope.

5 Leadership

5.1 Leadership and commitment

Top management should ensure that a sustainability vision and plan for the organization is established with appropriate details in the service management policy, service management objectives and service management plan. These should mirror the strategic direction of the organization for sustainability.

The organization should establish a culture of sustainability. Top management and the governing body should create an environment where emphasis is placed on environmental, social and economic dimensions of sustainability.

Top management should ensure that there are appropriate levels of resources and authority to execute sustainability actions within the SMS. Communications on service management objectives, requirements and value should include planned sustainability aspects of the SMS.

Additionally, top management should identify and manage their own training needs to enable better understanding of the context and to encourage the changed attitudes and expectations in view of the focus on sustainability.

5.2 Policy

5.2.1 Establishing the service management policy

The organization should determine the sustainability aspects of its activities and services. Top management should ensure that the service management policy includes commitment to effectively manage the sustainability aspects identified.

For examples of key sustainability aspects that can be considered in each of the three sustainability dimensions see [Annex A](#).

5.2.2 Communicating the service management policy

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 5.2.2.

5.3 Organizational roles, responsibilities and authorities

Consideration should be given to assigning responsibility for the planning, implementation and measurement of the sustainability aspects of the SMS.

6 Planning

6.1 Actions to address risks and opportunities

The organization should determine the risks and opportunities that need to be addressed to give assurance that the SMS can achieve its intended outcomes for sustainability.

It is possible that risks related to environmental, social and economic dimensions (see [Annex A](#)) will be managed independently. There can be an opportunity to manage these dimensions together. Potential risks related to sustainability in an SMS can be present across any of the areas listed in [Annex A](#). Design of new or changed services should consider the potential impact on sustainability objectives. For example, if an organization has an objective of reducing GHG emissions, this objective can be at risk from increased power usage by IT systems as new services are added to the organizational portfolio.

An example for the social dimension is the identification and management of health risks from performing human activities.

An example for the environmental dimension is the opportunity to establish responsible IT asset reuse, recycling and disposal practices to minimize environmental impact.

An example of the economic dimension is identifying and managing risks to the profitability of the organization by balancing the costs of sustainability actions with the benefits.

Bribery is another potential risk for the organization within the context of sustainability. Implementing an anti-bribery policy and other internal controls to detect possible bribery instances can mitigate these risks. Sample risk mitigations for bribery are:

- a) use a pre-qualification process, including assessing the likelihood of staff participating in bribery and the location of the supplier, as bribery risk can be higher in some areas;
- b) require at least two signatures on contract awards, work approvals, etc. to reduce the risk of corrupt awards, approvals, payments or benefits.

NOTE For more information on anti-bribery management, see ISO 37001.

6.2 Service management objectives and planning to achieve them

6.2.1 Establish objectives

The organization should establish measurable objectives about sustainability within the context of service management (e.g. obtain a 5 % reduction in power consumption of data centres by the end of the year).

Any relevant SMS sustainability-related initiatives and actions should always be aligned with the organization's strategic objectives for sustainability.

The organization should ensure that there are measurable commitments that demonstrate the sustainability efforts of the service provider (e.g. energy consumption of IT equipment per rack cabinet to be reduced by 5 % by the end of the year).

6.2.2 Plan to achieve objectives

Planning to achieve all service management objectives should consider the sustainability aspects, especially for the resources required and how the results will be evaluated.

6.3 Plan the service management system

The organization should determine the compliance obligations for sustainability and how these apply to the SMS and the services.

NOTE For further information on compliance obligations for the environmental dimension, see ISO 14001:2015, 6.1. Additional relevant legal or regulatory requirements can also be applicable.

Known limitations in the service management plan can include sustainability aspects of the SMS such as procurement budget constraints. The approach to be taken for other parties involved in the service lifecycle should expand on any requirements for suppliers to demonstrate sustainability actions. Authorities and responsibilities should specify sustainability actions where relevant. Measurement of the effectiveness of the SMS should consider the sustainability actions of the organization as well as its suppliers.

7 Support of the service management system

7.1 Resources

The organization should determine and provide the resources required to execute the sustainability actions within the SMS. Examples of sustainability aspects for the four types of resources are:

- human resources: fair pay, well-being, inclusion and diversity, community support, hybrid mode of working for reducing transport needs;
- technical resources: extended equipment lifespan, recycling end-of-life equipment;
- information resources: reduced storage utilization through optimization of information retention criteria;
- financial resources: maximize software licence utilization.

7.2 Competence

The organization should determine and ensure necessary competence for persons involved in sustainability actions.

NOTE [Annex C](#) provides a list of possible competencies to assist in adding sustainability to an SMS. When defining new competencies, see ISO 10015.

7.3 Awareness

Effective delivery of sustainability aspects within an SMS requires that individuals involved, including internal interested parties (e.g. operations staff, budget holders or others engaged with suppliers in any capacity) and top management, understand the reasons for the focus on sustainability. To effectively deliver sustainability within an SMS, a supportive organizational culture, performance management, education, training and other support (e.g. working from home, reduced travel) can be useful.

7.4 Communication

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 7.4.

7.5 Documented information

7.5.1 General

Printing and physical storage of documents should be minimized.

7.5.2 Creating and updating documented information

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 7.5.2.

7.5.3 Control of documented information

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 7.5.3.

7.5.4 Service management system documented information

The organization should ensure that sustainability policies, processes, targets and actions have been included in appropriate documents.

7.6 Knowledge

The knowledge base should include information on tools, techniques, solutions and lessons learned for achieving the sustainability objectives of the organization and operating an SMS focused on sustainability (e.g. best practices to optimize server power consumption).

8 Operation of the service management system

8.1 Operational planning and control

The impact on the environmental, social or economic aspects should be included in all planning, implementation and control activities (e.g. when outsourcing processes, the sustainability aspects should be included in the control criteria for the suppliers).

8.2 Service portfolio

8.2.1 Service delivery

When performing activities required to deliver services, the organization should consider sustainability (e.g. choose service delivery options that have the least environmental impact while retaining the required functionality).

8.2.2 Plan the services

Sustainability should be considered when adding, modifying or removing services from the portfolio. Changes should be proposed for services when it can be shown that they provide a positive sustainability benefit.

8.2.3 Control of parties involved in the service lifecycle

The organization should determine and apply criteria for the evaluation and selection of other parties involved in the service lifecycle using the principles of sustainable procurement where possible. The organization can establish a sustainable supply chain by ensuring that:

- good working conditions are provided for its suppliers' employees;
- sustainable products or services are purchased, where possible;
- socio-economic issues, such as inequality and poverty, are addressed.

The controls applied for other parties should include sustainability aspects. This includes exercising its capability to influence the behaviour of its suppliers and other interested parties towards sustainability (e.g. considering ecolabelling while making procurement decisions).

NOTE 1 For more information on sustainable procurement, see ISO 20400.

NOTE 2 ISO/IEC 20000-1 includes requirements about criteria for the evaluation and selection of suppliers only. Requirements related to procurement of suppliers are not in the scope of ISO/IEC 20000-1.

8.2.4 Service catalogue management

The organization can add sustainability impact information to catalogue entries.

8.2.5 Asset management

When considering the assets used to deliver services, the assets should be selected and implemented to adhere to the organization's sustainability objectives. Activities include asset tracking, responsible sourcing, utilization optimization, effective e-waste management following best practices of refuse (avoid), reduce, reuse, recover and recycle. For example, utilization can be improved by prolonging the usable life of assets through favouring the reuse of returned assets, provided they meet the relevant requirements, over the purchase of new assets.

8.2.6 Configuration management

Configuration items (CI) that are relevant for the sustainability actions of the organization should be appropriately classified and managed. CI details can include, for example, the energy efficiency of servers, any ecolabels for infrastructure items, identification of items made of recycled and/or recyclable materials.

8.3 Relationship and agreement

8.3.1 General

Relationships and agreements between parties involved in the service lifecycle shown in ISO/IEC 20000-1:2018, Figure 2, should be adjusted to ensure that the organization's focus on sustainability pertains not only to the organization, customers and direct suppliers but also to the supply chain. For example, emission levels of the external supplier in manufacturing IT infrastructure equipment or influencing customers to move to renewable energy sources can be covered in agreements with the sub-contracted suppliers in the supply chain.

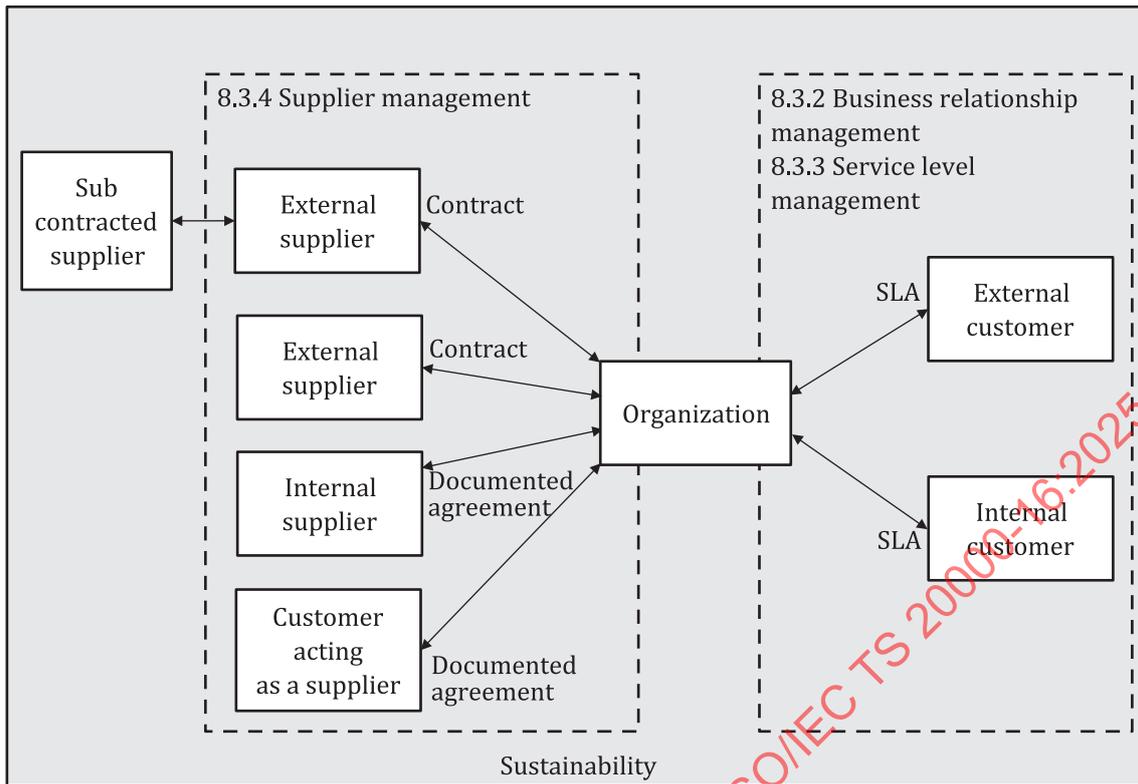


Figure 2 — A focus on sustainability underpins all relationships and agreements

8.3.2 Business relationship management

During communication with customers, the organization should share its own sustainability activities and goals as well as seek to understand the changing business environment of the customer in view of their sustainability objectives.

The organization should include relevant sustainability aspects in their efforts to measure customer satisfaction. When customer satisfaction is measured, at least one question on sustainability aspects should be included.

8.3.3 Service level management

During customer interactions, such as requirements gathering or service review meetings, aspects related to sustainability should be discussed, documented and managed. One example of a sustainability action is the use of virtual meetings over face-to-face to reduce the carbon footprint.

8.3.4 Supplier management

8.3.4.1 Management of external suppliers

The organization should include requirements on sustainability which match the organization's policy in the supplier contract. Consideration should be given to contractual requirements for sustainability for the lead suppliers related to their supply chain. The contract with suppliers should allow consideration of incentives or penalties for the supplier to improve sustainability in their own organization and across their supply chain (e.g. emissions to air, discharges to water and releases to land during the manufacturing of equipment supplied).

Performance monitoring for the suppliers should include their sustainability obligations. If these are not met, then the supplier should be asked to commit to improvements.

NOTE See [Annex B](#) for sample questions to be answered by potential suppliers indicating their commitment to sustainability.

8.3.4.2 Management of internal suppliers and customers acting as a supplier

The organization should include requirements about sustainability to match the organization's policy in the documented agreement with internal suppliers and customers acting as a supplier. The contract or agreement should include incentives or penalties for the supplier to improve sustainability in their own organization and across their supply chain (e.g. power consumption efficiencies and percentage of energy from renewable sources).

Performance monitoring for the internal suppliers and customers acting as a supplier should include their sustainability obligations. If these are not met, then they should be asked to commit to improvements.

8.4 Supply and demand

8.4.1 Budgeting and accounting for services

The organization should include sustainability costs and cost savings from sustainability actions in their financial accounting. The organization should record the cost benefits of sustainability actions. This information, within an organizational communication policy, can be used to promote the organization's sustainability efforts.

8.4.2 Demand management

Current and future consumption of services should be analysed against the demand forecasts, for the impact on sustainability, such as:

- the increasing use of cloud services;
- the increasing demand for hardware.

This can be evaluated to see if the demand can be controlled or reduced and met in more sustainable ways. For example, align service availability hours to actual business needs rather than providing a full 24/7 service, or introduce differential charging to influence demand during peak hours.

8.4.3 Capacity management

The organization should plan capacity to promote the use of software, systems and infrastructure causing minimal sustainability impact with agreed capacity and performance requirements met over time.

At planned intervals and where appropriate, the organization should, as a minimum, consider:

- reducing the energy consumption of the physical equipment used to deliver services by opting for energy efficient equipment;
- shortening the required storage periods of information resources;
- lowering the equipment power levels through appropriate configurations;
- optimizing the equipment resource requirements (memory, CPU, storage, etc.);
- facilitating the scalability of each service to meet potentially changing customer needs;
- reviewing the need for property and facilities to ensure that any unnecessary resources are removed.

NOTE Guidance for human and financial resources is provided in [7.1](#).

8.5 Service design, build and transition

8.5.1 Change management

8.5.1.1 Change management policy

Within the change management policy, the impact on the climate and all sustainability dimensions should be considered when making decisions on the approval of requests for change.

8.5.1.2 Change management initiation

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 8.5.1.2.

8.5.1.3 Change management activities

Prioritization of requests for change and proposals should consider the impact on sustainability dimensions. Decision-making should take into consideration the sustainability impact of the change.

8.5.2 Service design and transition

8.5.2.1 Plan new or changed services

The organization should plan for actions to reduce the sustainability impact of new, changed, transferred or retired services.

When planning the intended outcomes from delivering new or changed services, sustainability should be a defined outcome.

8.5.2.2 Design

Software and hardware eco-design practices should be encouraged in the service design phase. When designing the new or changed services, a key consideration should be the sustainability aspects (e.g. sustainability impact of additional IT equipment if needed).

8.5.2.3 Build and transition

The organization should include specific tests for sustainability to meet organizational policies and service requirements.

The organization should report to interested parties on the achievements against the intended outcomes for sustainability.

8.5.3 Release and deployment management

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 8.5.3.

8.6 Resolution and fulfilment

8.6.1 Incident management

Incident resolutions should consider sustainability impact where appropriate and possible. For example, consider a repair and reuse philosophy by maintaining a stockpile of refurbished hardware before replacing hardware components with newly purchased components.

8.6.2 Service request management

All requests should be analysed for their sustainability impact (e.g. does the product requested fulfil sustainability requirements?).

8.6.3 Problem management

All solutions and proposed changes for workarounds and permanent fixes, both for solutions and permanent fixes, should be evaluated for their sustainability impact (e.g. assessment of the carbon footprint of additional system capacity used to improve performance).

Problem management should also consider the sustainability impact of not addressing a problem. This can be positive or negative and can be an input to the decision making on whether to implement a permanent fix.

8.7 Service assurance

8.7.1 Service availability management

The organization should periodically check availability requirements and targets to ensure that no unnecessary infrastructure is being used which impacts sustainability (e.g. move away from the traditional "always on" approach for system availability to an "availability on demand" approach as needed).

The organization should ensure that the level of service availability determined is in line with the actual needs of its customers.

8.7.2 Service continuity management

While assessing the service continuity risks, the organization should identify risks with a sustainability impact and plan mitigation in accordance with the organization's sustainability policies. The organization should include the impact on sustainability when reporting after the service continuity plan has been invoked. The organization should include targets for sustainability in the service continuity plan when the service continuity plan is invoked, in comparison to normal operations. The service continuity test should include verifying that targets for sustainability can be met when the service continuity plan is invoked (e.g. energy consumption from renewable sources).

The organization should promote a sustainability strategy for better service continuity and evaluate the merits of sustainability measures. For example, introduction of the use of renewable energy can lead to diversification of sources and reduce the risk of total loss of energy supply.

NOTE For further information on environmental management systems, see ISO 14001.

8.7.3 Information security management

8.7.3.1 Information security policy

The information security policy should take into consideration the sustainability requirements and how these can impact information security. For example, reuse of IT assets should be managed carefully to avoid information security vulnerabilities.

Software eco-design and responsible data management approaches need to align with policies for securing and mitigating service vulnerabilities.

8.7.3.2 Information security controls

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 8.7.3.2.

8.7.3.3 Information security incidents

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 8.7.3.3.

9 Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation

The sustainability actions related to the SMS should be distinct and include how to monitor, measure, analyse and evaluate performance. Analysis against previous measurements should be used to show progress.

The organization should establish appropriate indicators for its sustainability objectives (e.g. carbon footprint or gender equality). The organization should monitor, measure, analyse and evaluate conformance of the SMS and the services to the sustainability aspects of the service management policy and the sustainability indicators. For example, the organization should monitor and measure its energy consumption with a goal of maintaining or reducing overall energy consumption, or monitor and measure its asset utilization with a goal of optimization.

9.2 Internal audit

The audit programme should cover sustainability aspects of the SMS. Auditors should be trained and competent to interpret the sustainability aspects of the SMS. For example, if internal audits include ecolabelling requirements, auditors should have the competencies to evaluate and interpret these.

9.3 Management review

The management review should include progress on the sustainability objectives. An example objective could be the percentage of disposed IT assets recycled during the current reporting period compared to the previous reporting period.

9.4 Service reporting

Service reporting should include information on the performance and effectiveness of sustainability aspects of the SMS.

10 Improvement

10.1 Nonconformity and corrective action

No further guidance is provided in addition to ISO/IEC 20000-1:2018, 10.1.

10.2 Continual improvement

The organization can undertake an annual sustainability maturity assessment to determine performance against sustainability objectives and identify opportunities for improvement. Evaluation criteria and targets for improvement should include the impact on sustainability.

The organization should ensure that there is a procedure for employees and other interested parties to suggest sustainability-related improvements. For example, suggestions across the three dimensions could include:

- environmental:
 - reducing non-recyclable waste;
 - recycling end-of-life products;
 - reducing energy usage;
 - reducing transportation for staff, according to the organizational policies;

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- reducing transportation for products;
- use of automation and digitization to reduce the need for resources, paper and transport, such as digital invoicing instead of paper-based invoices;
- social:
 - sustainability training for employees and interested parties;
 - analysing the benefits of hiring more diverse staff in order to improve the social context of the organization.
- economic:
 - streamlining processes for cost reduction and efficiency improvements;
 - cost analysis of alternative products with environmental benefits;

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