

## MODERN MANAGEMENT SYSTEMS IN ENTERPRISES

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**Purpose:** The article aims to characterise integrated business management systems and demonstrate their usefulness for management.

**Design/methodology/approach:** The aim was pursued with a literature review, critical literature analysis, and expert judgement.

**Findings:** Having an integrated management system by an enterprise is increasingly becoming a condition for cooperation both on the domestic and foreign markets. The introduction of an integrated management system requires the involvement of all employees in increasing work safety and their greater involvement in performing daily duties. Having an integrated management system by the company increases the trust not only of customers in the company but also of employees.

**Practical implications:** The results suggest that integrated management systems may help achieve a competitive market advantage.

**Social implications:** Deploying an integrated management system empowers the enterprise to manage corporate social responsibility. Such efforts follow from meeting growing customer expectations.

**Originality/value:** The article's added value lies in uncovering the potential brought by deploying integrated management systems in an enterprise. The deployment may give the company a market advantage. The results of the analysis show that an integrated management system can simultaneously manage quality, environment, and OSH.

**Keywords:** integrated management system, ISO standard, system certification.

### 1. Introduction

Organisations can rise to the challenge of growing market competition by deploying and using modern management systems. Goal achievement determines whether an organisation is successful in the market. How it accomplishes its tasks can be judged by its effectiveness. Still, the effectiveness of the organisation as a whole is determined by management's activity, which is responsible for coordinating and guiding it.

In today's rapidly evolving world, where technologies, markets, and environmental complexity pose an increasing challenge for organisations, they can resort to advanced analytical tools (Bresciani et al., 2022; Forliano et al., 2022).

It takes both knowledge and the ability to use and manage it to improve how business is managed in diversified surroundings (Skrzypek, 2018). The management's interest in learning about and implementing integrated management systems may turn out to be a key to success.

The article aims to characterise integrated business management systems and demonstrate their usefulness for management. The methods employed to pursue the research objectives are a literature review, critical literature analysis, and expert judgment.

## 2. Integrated Management System

The literature does not offer a single definition of a management system. It first appeared as a management sciences term in the 1970s. A management system is a tried and tested structure for managing and continuously improving an organisation's productivity, policies, procedures, and processes. A management system has to have the following components (Senczyk, 2014):

- designed objective, the effect it is intended to achieve,
- operational resources, that is, all tangible and intangible assets for reaching the objective,
- processes to achieve the objective,
- inputs, data, guidelines, information, energy, materials, semi-finished products, components, etc.,
- outputs with which the designed objective is achieved.

A correctly completed process of improving a management system with proper management techniques and methods may contribute to numerous outcomes. These can be economic and financial benefits, such as increased profitability or income, better budget execution, cost reduction, improved cash flows, better ROI, better competitive advantage, sounder decision-making, customer retention, and increased customer loyalty. It can also lead to the optimal use of resources, boosted intellectual capital, greater sense of responsibility among employees, better effectiveness of the organisation's processes, enhanced supply chain, reduced delivery time, and elevated productivity, credibility, and resilience of the organisation (Skrzypek, 2016).

One of the fundamental characteristics of integrated management systems (IMSs) is their integration, which contributes to system cohesion, better organisations, and the potential for more usability. They bring together production and distribution processes and enable organisations to respond quickly to threats and opportunities (Pietras, 2017; after Rzewuski, 2002). Changes in organisations entail costs. Costs of developing and deploying an integrated management system include (Urbaniak, 2006):

- costs of employee training;
- costs of employees who draft and verify IMS procedures and instructions;
- costs of hardware and software;
- costs of drafting, implementing, and monitoring documentation;
- costs of internal audits and reviews;
- costs of pursuing objectives and tasks (preparation of plans and programmes and system monitoring by organisational units).

A certification audit fee is also a quantifiable cost of an IMS. Typically, large enterprises more readily appreciate the significant benefits of IMS deployment than small and medium enterprises. The high cost is the primary factor when deciding whether to deploy an IMS.

Benefits of an integrated management system include image, employee engagement and motivation, and greater market share, which may take some time to emerge (Górska, Lewandowski, 2002). The success of any management concept depends on the people: their knowledge, skills, attitudes, and commitment to the interests of the enterprise (Skrzypek, 2017).

An integrated management system can provide opportunities for continuous improvement of business effectiveness. Another important characteristic of a system is that it is continuously active as opposed to programmes. Management development is inherently linked to the continuous growth of processes in the enterprise. Enterprises first focused on quality in their business processes. Other needs arose over time, emerging from new expectations for environment protection, occupational safety, or information security (Rączka, 2008). Individual segments of the system can be deployed in parallel or consecutively. Experience suggests that the consecutive approach is better for avoiding mistakes thanks to experience and expertise. This makes the process faster and cheaper. The deployment should be divided into distinctive phases to facilitate inter-stage reviews and corrections. An integrated management system usually consists of hierarchical subsystems that are interdependent and interrelated. Business management systems come in two types: offline and online. Generally, offline systems use paper forms or simple tools in Excel, for example, as inputs and outputs. Online systems, on the other hand, are accessed via a web browser from any place (Senczyk, 2014). Integration of management systems usually involves systems defined in international, European, and national standards, such as ISO 9001, ISO 14001, or PN-N 18001.

An integrated management system is two or more collaborating and complementary subsystems in an organisation. These are usually quality, environment, or OHS management systems. Still, it is not enough to deploy each such system to expect improvement in management. Although previously perceived as completely disjoint, these domains started to entwine as the subsystems were deployed, and the need for their integration emerged.

An integrated management system can be based on any existing system, such as ISO, QMS (quality management system), or EMS (energy management system), that is suitable for the enterprise.

The need for integrated management systems emerges from the organisation's desire to more fully meet the public's needs and more effectively manage the enterprise (Senczyk, 2014). Every part of the system should be designed to adapt to the variable conditions of everyday operations and to make information transfer as fast as possible (Stawowy, 2018).

Deployment of ISO 9001:2000 is an important factor for arranging production processes (Węgrzyn, 2007). Integrated management systems involve a strategy for managing multiple systems in an enterprise while meeting customer needs and expectations.

### 3. System Certification

An integrated management system is founded on standards. An organisation with such a system may be certified for compliance with the standards. Each area has its specific standards: PN-EN ISO 9001:2009, PN-EN ISO 14001:2005/AC:2009, PN-N-18001:2004, and PN ISO/IEC 27001: 2007. They are guidelines the enterprise needs to follow to be certified.

PN-EN ISO 9001 sets requirements for a quality management system for enterprises that aim at demonstrating their capability of constantly delivering a compliant product that meets customer requirements. This standard can apply to various businesses regardless of their focus and size. It may be used by production, trade, and service entities.

Quality improvement efforts can be initiated when the enterprise is certified for compliance with ISO 9001: 2015. This standard has replaced the previous one, 9001:2008. Procedures in ISO 9001 have been streamlined, and the required documentation is minimal. ISO 9001 certification is the first step on the path to improved processes and quality control.

Benefits of a quality management system and certification (<https://www.udt.gov.pl/certyfikacja-systemow-zarzadzania/pn-en-iso-9001-2009-system-zarzadzania-jakoscia>):

- improved management and boosted effectiveness and efficiency of business processes;
- proper monitoring of the management system in the enterprise;
- availability of a tool for ensuring a high quality of products;
- improved customer confidence in product quality and safety;
- improved competitiveness in national and international markets;
- greater choice of procedures for EU directive conformity assessment;
- compliance with many tender procedure specifications;
- possible integration with other management systems.

An enterprise seeking to be ISO 9001 certified undergoes external audits by a certification body. These audits evaluate procedures, documentation, performance, and standard compliance. ISO 9001 certification requires a commitment to continuous improvement. The enterprise should monitor its results, hold regular management reviews, and analyse data and feedback to identify

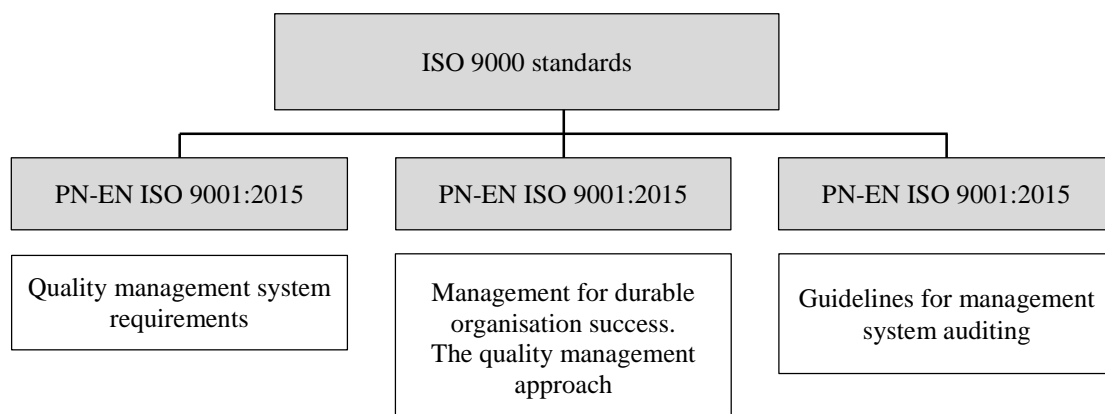
areas for improvement. Corrective action planning and implementation, as well as keeping the quality management system up to date and effective, are critical for maintaining the ISO 9001 certificate (<https://ikmj.com/istotne-aspekty-zwiazane-z-certyfikacja-iso-9001/>).

Some EU state regulations require that businesses in certain industries be certified to participate in supply chains. In other sectors, such certificates contribute a significant competitive advantage. ISO 9001 standards can be used in any industry. The primary principle of management through quality articulated in the standards is to perceive the enterprise from the process perspective.

Regardless of certification, businesses with many management systems can gain a holistic picture of management activities in the organisation. Enterprises can be empowered to add significant value to their operations while stimulating the sustainable development of their procedures and processes (Rebelo et al., 2016).

#### 4. Quality Management Systems

Deployment of an ISO 9001 quality management system takes time, effort, and commitment from all personnel. The process usually involves identifying and recording processes, developing procedures, monitoring performance, holding internal audits, managing the quality system documentation, and conducting risk analysis and corrective actions (Fig. 1) (<https://ikmj.com/istotne-aspekty-zwiazane-z-certyfikacja-iso-9001/>).



**Figure 1.** Summary of ISO 9000 standards.

Source: Nowak, Pawluk, 2016, pp. 45-52.

ISO 9001:2015 requires that an enterprise with a quality management system define its scope. It should be kept as documented information, considered in the business context, include the requirements of significant stakeholders, and define the products or services the system covers. The quality management system should also be easily available. The quality management system

scope includes such items as the Hallmarking Act compliance monitoring, internal supervision, keeping a register of maker's marks, procedures for nonconformities and complaints, and coordination and supervision over the activities of branch divisions regarding testing and hallmarking precious metal products (Motyka, 2019). ISO 9004 provides guidelines for permanent business success. Its objective is to increase the organisation's credibility and warrant its long-term, permanent success. It helps enterprises identify and balance the needs and expectations of their customers with the needs and expectations of other stakeholders in a complex and ever-evolving business environment. ISO 9004 is not designed strictly for certification. It contains an improved self-assessment tool to help enterprises evaluate the maturity of various components of their systems and identify and prioritise potential areas for improvement. It is useful for moving to the next level beyond ISO 9001. It concerns such issues as adjusting and implementing strategies, policies, and goals as part of a broader vision, mission, values, and organisational culture (<https://www.iso.org/news/Ref2187.htm>). ISO 9004's description of process management offers a very useful complement to the process approach proposed in ISO 9001. It gives a better understanding of process management and introduces new elements compared to ISO 9001, such as identifying stakeholders' needs and developing links between process management and strategic management. Still, similarly to the description in ISO 9001, the one in ISO 9004 is superficial and does not provide detailed guidelines for specific actions to be taken in the enterprise (Brzozowski, Rogala, 2017).

An enterprise with a management system needs to conduct regular audits to make sure the system is effective. ISO 19011 is useful in this regard. It offers recommendations intended to help businesses develop an audit programme to facilitate compliance with the requirements of various ISO standards. Guidelines in ISO standards are the foundations for internal audits that the enterprise may need to assess its suppliers and for third-party audits necessary for certification.

An ISO 9001 certificate is proof of high quality standards. It improves customer confidence and gives a competitive advantage. Every enterprise is different, so an ISO 9001 certificate brings various benefits depending on the business context and goals.

## **5. Environmental Management Systems**

The goal of environmental management in business is to minimise the impact on natural resources, satisfy customer expectations, and elevate brand image. An environmental management system involves the executives and other employees. The system is evaluated at least once a year.

The key ISO 14000 standards are those for environmental management systems (ISO 14001 and ISO 14004). An environmental management system is a management tool empowering the enterprise to identify and monitor the environmental impact of its activities, products, and services, refine the environmental effects of its business, and implement a systemic approach to defining, achieving, and verifying environmental goals. The series of ISO 14000 standards includes standards for environmental management systems, environmental labelling, environmental impact assessment, life cycle evaluation, product design and development with the environment in mind, environmental communication, greenhouse gas and climate change issues, water and carbon footprint, and environmental costs (<https://wiedza.pkn.pl/web/wiedza-normalizacyjna/srodowisko>). ISO 14001 specifies requirements for building environmental management systems in different enterprises. The environmental management system model is founded on the principle of continuous improvement. The primary purpose of the system is defined as support for activities related to environment protection and pollution control and prevention. The idea behind ISO 14001 is to improve environment protection activities by identifying threats, estimating risks, and encouraging enterprises to be environmentally compliant (Jagodzińska, 2019). The following revisions in ISO 14001 have been emphasised (Introduction, 2015):

- environmental management as a component of strategic operational axes in organisations;
- increased role of commitment and leadership from managers;
- requirements for proactive initiatives for environment protection, such as the use of renewable resources and mitigation of climate change exacerbation;
- need for life-cycle-based thinking to consider environmental aspects from product design to end-of-life stages;
- requirements for a stakeholder-oriented communication strategy (Jedynak, 2019).

ISO 14001 focuses on natural environment protection. An environment management system concentrates on reducing waste, methods and ways for waste management, pollution prevention, reducing consumption of natural resources, and cutting down emissions in the transport industry (Jagodzińska, 2019). Note that ISO 14001 is part of a large ISO 14000 series. In addition to the superior ISO 14001, the series includes such standards as (Jedynak, 2019):

- ISO 14004, which provides guidelines for developing, deploying, maintaining, and improving an environmental management system and coordinating it with other management systems;
- ISO 14006 for organisations that already have an environmental management system but need to integrate it with eco-design activities;
- ISO 14064-1 with regulations and requirements for greenhouse gas emissions quantification and reporting.

Advantages of deploying ISO 1400 (<https://adees.com.pl/norma-iso-14001/>):

- improved environmental awareness of personnel;
- improved image of an environmentally-friendly business;
- compliance with environmental regulations;
- curbed liquid and solid waste.

## 6. Occupational Safety and Health Management System

The International Organization for Standardization (ISO) published the first global harmonised standard for occupational safety and health management systems, ISO 45001:2018, on 12 March 2018. The new ISO 45001:2018 replaced former standards containing OSH requirements: BS OHSAS 18001:2007 and PN- N 18001:2004 (<https://www.iso.org.pl/artykuly-i-informacje-dotyczace-systemow-zarzadzania/artykul-iso-450012018-nowa-norma-dotyczacazarzadzania-bhp-2019-01-25/>). ISO 45001 is applicable to all organisations, regardless of size, industry, and nature of business. It is designed to be integrated into an organisation's existing management processes and follows the same high-level structure as other ISO management system standards, such as ISO 9001 (quality management) and ISO 14001 (environmental management) (ISO 45001). ISO 45001:2018 is the first standard on occupational safety and health issued by the International Organization for Standardization. It is founded on several key principles: the PDCA cycle: plan, do, check, and act and risk and opportunity management. The standard focuses on managing risks and opportunities emerging from the OSH management system. The new ISO 45001 increases the involvement of executives in OSH and integration with other management systems. The sections are arranged according to the HLS principle (High-Level Structure) used in ISO 14001:2015 and ISO 9001:2015 for easier integration with other management systems (Bartczak, 2023).

According to the International Labour Organization, almost 3 million people die every year of workplace accidents and conditions, with 330 thousand attributable to accidents. It is nearly 5% more than in the 2015 report (<https://www.bankier.pl/wiadomosc/Smiertelne-zniwo-wypadkow-przy-pracy-Przerazajace-miedzynarodowe-dane-8653630.html>). Accidents at work are on the rise in Poland as well. According to preliminary Statistic Poland's data for 2023, the number of workplace casualties in Poland and the accident rate grew compared to 2022. The number of people reported as casualties of accidents at work in 2023 was 68,663, which is 3.1% more than in 2022. The ratio of casualties per 1000 employees also grew from 4.66 to 4.90 (Statistics Poland, 2024). Therefore, it is important to implement standards that improve occupational safety. ISO 45001:2018 reduces workplace risks by providing better and safer work conditions.



## 7. Conclusions

All systems need regular management reviews and defining goals in line with the particular system. Implemented and certified integrated management systems improve the quality of work at the enterprise, leading to fewer complaints and higher levels of personnel safety. This contributes to the market advantage. Integrated management systems have become the prerequisite for business partnerships at home and internationally. Better quality (expected by buyers) increases profits through reduced internal costs. Deployment of an integrated management system contributes to ongoing improvement of environmental efforts, leading to a better state of the environment. Integrated management systems also safeguard enterprises against fines through compliance. Deployment of an integrated management system necessitates the engagement of all employees in occupational safety efforts and everyday duties. This boosts confidentiality among both customers and employees.

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