



Environmental Management System IOS; Its Latest Issues, Its Requirements and Evaluations.

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Abstract:

This research examines the International Nomenclature 14001 ISO, a 2015 issue as an ecosystem, it does not contain radical changes but rather improvements in how could be applied to ensure greater effectiveness within the framework of international standards. We have separated Algeria's evaluation bodies, which are the National Board of Evaluation, followed by the National Institute

of Evaluation, the technical committees, and the Algerian Accreditation Authority, which have the power to grant the International Certificate of standard.

Keywords: Environmental Management Systems; The ISO 14001; Standard version 2015; Environmental Management.

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Introduction:

Industrial institutions are one of the most important actors in achieving environmental protection, which represents the desired goal by countries that have agreed to establish global rules and laws to curb the depletion of resources in random ways. It is necessary for the activities of these institutions to be suitable for environmental protection, and it has become imperative for them to respect these laws and regulations.

As the protection of the environment is of utmost importance and is imposed on societies as a whole, it should not be limited to one field or sector, as environmental elements are closely interconnected. With the intensification of competition in the industrial field relying on the environment as a source of necessary resources, environmental protection has become important at all stages of institutional work. Faced with the increasing risk of environmental damage and pollution, environmental strategies have emerged to ensure environmental conservation. Consequently, environmental management systems have emerged, prepared by specialized bodies representing a part of the institutional management system, consisting of procedures applied across stages to enable the institution to implement its environmental policy and achieve its objectives with the best possible environmental performance for the sake of environmental protection, which has become a major area of competition among companies. Environmental management systems specialize in establishing the highest level of organizational commitment to pollution prevention, and they specify the legal and regulatory requirements for the environmental aspects associated with the institution's activities.

It is important to note that the establishment of the International Organization for Standardization dates back to 1946, following a meeting of representatives from 25 countries at the headquarters of the Institution of Civil Engineers in London. It was decided at that time to establish an international organization known as the International Organization for Standardization, with its headquarters in Geneva. It officially commenced its operations in February 1947. Through the development of standards across various domains and the facilitation of cooperation, its aim is to institute a system characterized by flexible yet stringent oversight to standardize international specifications.



Based on that, environmental management systems emerged, the most important of which is the ISO 14001 standard. This is an international standard developed by the International Organization for Standardization (ISO) that specifies the basic requirements for establishing an environmental management system. It was globally adopted in 1996 through the formulation of policies and objectives in accordance with legal and environmental requirements in an effective manner. This is driven by both internal and external motivations: the former includes external pressures pushing the organization to apply the ISO 14001 system, and the latter includes the organization's own benefits. The ISO 14001 standard was established to preserve the environment and is one of the standards that address various aspects and provide a comprehensive strategic framework for companies to integrate long-term environmental management into their policies.

Study Objectives:

The main objective of this study is to provide an overview of the international standard ISO 14001, its key components, and the procedures for registration to obtain the ISO 14001 compliance certificate. Additionally, it aims to identify the specialized bodies that grant the certification and examine the advantages and disadvantages of adopting an environmental management system, while raising environmental awareness.

Importance of the Study:

The topic of this study is relatively modern, and its significance lies in attempting to fill the gap in studies and the scarcity of research in the field of environmental management. This is despite the relative increase in the number of Algerian organizations holding the ISO 14001 certificate. The study also aims to provide concepts about the ISO 14001 standard and its requirements, in addition to evaluating it and highlighting the importance of implementing this standard. This encourages and motivates organizations that have not yet applied the ISO 14001 standard to improve their environmental performance by adopting it.

Study Methodology:

Due to the nature of the topic and in line with studying it to achieve the desired results, this can only be done according to a clear and specific



methodology. We will follow the descriptive method, which allows for the provision of data and facts about the problem under study. The information and data for this study will be sourced from books, journals, and publications related to this subject. In this context, the following question arises: What is the latest version of the ISO 14001 standard?

To answer this question, we decided to divide this topic into two main sections. In the first section, we addressed the 2015 edition of the ISO 14001 international standard, specifying the registration mechanism to obtain the ISO 14001 certification, and discussing the standardization bodies in Algeria. The second section involves studying the requirements and evaluation of the 2015 ISO 14001 international standard.

1. The 2015 Edition of the ISO 14001 International Standard

The ISO 14001 standard is the internationally recognized specification for an environmental management system. It provides guidelines on how to manage the environmental aspects of an organization's activities, products, and services more effectively, taking into account environmental protection and pollution prevention, while balancing economic and social needs¹.

The ISO standards are reviewed and revised periodically every 5 to 10 years to ensure they remain up-to-date with increasing recognition by organizations, considering both internal and external factors affecting the environment. The purpose of revising ISO standards is to ensure that their criteria align with environmental protection.

The 2015 edition retains the core principles of the 2004 edition, with innovations in the structure of the standard aimed at achieving a global standard by encouraging organizations to implement it, thereby contributing to sustainable development.

First: Registration Mechanism for Obtaining the ISO 14001 International Standard Certification

¹ Matt Seeger. (2008). Translated by Khaled Al-Amri, The Global Reference for Quality Management. Cairo, Egypt: Dar Al-Farouk for Publishing and Distribution, 1st edition, p. 838.



The registration process to obtain the ISO 14001 international standard certification can be carried out through three methods: relying on internal staff to conduct qualification and internal audits and then seeking third-party registration, or opting for self-declaration of compliance with the requirements without involving a third party¹.

Initially, the organization wishing to obtain the ISO 14001 certification contacts one of the accredited bodies that grant compliance certificates for ISO 14001 environmental management systems. This is done by contacting an accredited standardization body either within the organization's country or abroad. Generally, the organization compares the notifications and procedures of these bodies, as well as the global reputation of the body, and submits an application outlining its activities and the site it wishes to register².

As an internal procedure before making contact, the organization raises awareness among its executives and workers about the goal they are striving to achieve, ensuring their solidarity and alignment with the new environmental policy. Once the organization contacts the accredited body, it receives a questionnaire containing a set of questions. By answering this, the standardization body can understand the organization's status based on the requirements outlined in the standard for compliance. This is followed by a series of organizational steps, including the delivery of documents such as a contract and a reference guide for ISO 14001. The organization also submits other documents related to quality records. After completing the documentation and its requirements, a specialized body reviews the organization's file and then decides whether to grant the certification.

Finally, the standardization body, after three years from granting the certificate, re-evaluates all levels of the environmental management system within the organization (Alab, 2021, p. 147). Before that, it conducts periodic checks

¹ Ahmed Selkhin, and Djilali Bouzkari. (2020). Obstacles to Adopting the ISO 14001 Environmental Management System by Economic Institutions: A Field Study – Active Institutions in the Ain Oussara Industrial Zone. *Journal of Studies and Research, The Arab Journal for Research and Studies in Humanities and Social Sciences*, Vol. 12, No. 1, p. 80

² Rachid Alab. (June, 2021). Determinants of Adopting ISO 14000 Environmental Management Systems Worldwide: An Analytical Study Using Panel Data. *The Original Journal for Economic and Administrative Research*, Vol. 5, No. 1, p76



approximately every six months to assess compliance with ISO 14001 requirements, which may result in the following¹:

- A good implementation of the environmental management system, extending the certification.
- Corrective actions for the environmental management system, extending the certification with adherence to these corrective actions.
- A complete re-evaluation of the organization's environmental management system.

Second: Standardization Bodies in Algeria

Like other countries, Algeria has sought to implement various mechanisms to preserve the environment. Through the Ministry of Water Resources and Environment and the Ministry of Health at the government level, as well as at the provincial and municipal levels, Algeria aims to maintain environmental safety from various hazards. Algeria has enacted numerous legislations to protect and enhance the environment².

1.The National Standardization Council:

The National Standardization Council oversees and directs the national standardization system. It has both a prior and subsequent mission. The prior mission involves setting priorities and ensuring alignment with the state's general policy. The subsequent mission involves approving national standardization programs and proposing anything that would promote and develop the national standardization system³. The tasks of the National Standardization Council include making proposals on strategies and methods that would enhance the national standardization system, setting medium and long-term objectives in the field of standardization, studying and approving national standardization programs, monitoring and evaluating their effectiveness, and presenting the annual report to the Prime Minister by the Chairman of the National Standardization Council.

¹ Rachid Alab, Op. cit, p146.

² Ibid,p120.

³ Hama, Y. (2016). Presentation of the Algerian standardization system. IANOR,p6 .



2. The National Institute of Standardization:

The National Institute of Standardization was established by Executive Decree No. 98-69 dated 21.02.1998¹. It is the only body authorized by law to grant quality certificates in Algeria, although it may seek assistance from an accredited conformity body. Article 14 of Executive Decree No. 05-465 dated 06/12/2005 states that the Algerian Institute for Standardization is the sole entity authorized to issue mandatory conformity certificates². This institute operates under the supervision of the Ministry of Industry and Small and Medium Enterprises and Investment Promotion³.

The institute is responsible for the preparation, advertising, and dissemination of Algerian standards, and coordinating all standardization activities initiated by existing structures or those to be established for this purpose. It is also responsible for approving trademarks that conform to Algerian standards and quality designations, authorizing the issuance of permits to use these trademarks, and monitoring their use in accordance with applicable legislation. Additionally, it promotes research and experimental activities in Algeria or abroad, and establishes the necessary testing facilities to create and ensure the implementation of standards.

The institute also maintains the constitution and provides the public with any documentation or information related to standardization, training, and awareness in standardization fields. It applies international agreements in the fields of standardization in which Algeria is a party. Furthermore, it manages the National Information Center on Technical Barriers to Trade, which falls under the umbrella of the World Trade Organization. The institute participates in the work of international and regional standardization organizations and represents Algeria when necessary⁴.

3. Technical Committees:

¹ Executive Decree No. 98-69. (1998). Dated 21/02/1998 concerning the Establishment of the Algerian National Institute of Industrial Property and defining its legal status.

² Executive Decree No. 05-465. (2005). Dated 06/12/2005 concerning Conformity Assessment (Official Journal No. 80-2005).

³ Rachid Alab, Op. cit, p121.

⁴ Ministry of Industry and Mines, www.mdipi.dz (n.d.).



These are five committees operating under the supervision of the Algerian Institute for Standardization¹. They are responsible for:

- Preparing standardization program projects in Algeria.
- Developing national standard projects in Algeria.
- Notifying the Algerian Institute for Standardization of standardization projects for submission to the referendum.
- Conducting periodic monitoring of national standards.
- Monitoring and testing international and regional standards.
- Participating in the development of international and regional standards.

4. The Algerian Accreditation Body (ALGERAC):

Another key standardization body in Algeria, the Algerian Accreditation Body was established by Executive Decree No. 05-466 dated 06/12/2005²This body is a public institution of an industrial and commercial nature, enjoying legal personality and financial independence, and operates under the supervision of the Ministry of Industry and Small and Medium Enterprises and Investment Promotion. One of its main tasks is to accredit any conformity assessment body.

There for The main responsibilities of ALGERAC include³:

- Establishing rules and procedures for accrediting conformity assessment bodies.
- Reviewing applications and issuing accreditation decisions to conformity assessment bodies according to relevant national and international standards.
- Renewing, suspending, and withdrawing accreditation decisions.
- Establishing periodic conformity assessment programs.
- Concluding all agreements related to its program activities with similar foreign bodies and contributing to efforts to conclude mutual recognition agreements.

¹ Hama, Y, Op. cit, pp. 11-12

² Executive Decree No. 05-466. (2005). Dated 06/12/2005 concerning Conformity Assessment (Official Journal No. 80-2005).

³ Official website of the Algerian Accreditation Body www.algerac.dz (n.d.).



- Representing Algeria in similar international and regional organizations.

- Publishing and distributing specialized magazines, booklets, or newsletters related to its subject matter.

The success of the Algerian Accreditation Body relies on its ability to:

- Promote and develop the accreditation market as a credibility factor.

- Be accepted as an indispensable player in promoting the quality of Algerian products.

As a result, most Algerian institutions prefer the Algerian Accreditation Body over other active bodies in Algeria.

Second Section: Requirements and Evaluation of the 2015 ISO 1400 International Standard:

The initial requirements for an environmental management system appeared in the ISO 14001 standard issued in 1996. It was updated by the International Organization for Standardization (ISO), with a new standard issued in 2004 and another in 2015, which introduced minor changes rather than substantial ones. The following section will cover the requirements of the environmental management system according to the ISO 14001 standard and its evaluation.

Firstly: Requirements of ISO 14001:2015 International Standard:

There are several requirements for ISO 14001 environmental management systems proposed by the International Organization for Standardization¹. Organizations seeking ISO 14001 certification must adhere to these requirements, which are interrelated. The environmental policy serves as a framework for planning, implementation, setting objectives, and environmental programs to align with environmental aspects.

1. General requirements:

¹ Basma Mnak, and Jabbar Bouktir. (June, 2018). The Impact of Implementing the ISO 14000 Environmental Management System on Human Performance in Economic Institutions: A Case Study of Tebessa Cement Company. Journal of Economics, Finance, and Business, Hamma Lakhdar University, El Oued, Algeria, Vol. 3, No. 1, p. 228



The organization must establish and maintain an environmental management system that is continuously updated and preserved to achieve the required continuous improvement of the system¹.

2. Environmental policy:

The environmental policy is a statement and declaration that defines the intentions and principles of the organization. It is formulated by senior management, with input from other departments for its development and modification. It represents the first step in preparing the environmental management system, emphasizing the organization's commitment² (**Taleb, 2018, p. 61**) to compliance with environmental and industrial laws imposed on the region. Documenting the environmental policy and announcing it at the enterprise level, including its alignment with objectives, goals, and review requirements.

3. Environmental Planning:

Environmental planning is among the crucial factors not less important than its predecessor³. It necessitates the establishment of a systematic approach for gradual and radical improvement in accordance with environmental protection. It also assists managers in implementing environmental policy and addresses the following aspects:

A. Environmental impact factors:

These encompass all elements within the organization's activities, products, and services that affect the environment. This requires the organization to study its activities to identify all environmental impacts, whether actual, potential, positive,

¹ Saleh Ali Mohsen Al-Mudhaji. (2012). The Integrative Option for Building Quality and Environmental Management Systems According to the International Standards ISO 14001 and ISO 9000: A Case Study in Aden Steel Company. Doctoral Dissertation in Business Law, St. Lements, p. 124

² Fatima Talib. (2018). ISO 14000 Environmental Management Systems and the Internationalization of Economic Institutions, Doctoral Dissertation. Abdelhamid Ibn Badis University p. 61

³ ISO 14001. (2015). Environmental management systems — Requirements and guidelines for use, Third Edition, 15.09,p30.



or negative, while determining the level and degree of impact on employees or the external environment.

B. Environmental laws and other requirements:

Defining these enables the organization to comply with them, including state-imposed laws and regulations as well as those the organization itself must adhere to, including performance standards for the management system. This step ensures the legal scope of each environmental management system operation¹.

C. Environmental objectives:

Following the aforementioned steps, these aim to translate policy into precise and specific goals², rather than mere slogans. Standard specifications require documenting environmental objectives at the enterprise level and maintaining them³. These objectives must be measurable and, of course, aligned with the environmental policy, categorized according to their types into long-term and short-term goals⁴.

D . Environmental Management Program:

To achieve objectives and purposes, the implementation plan must include what is known as an Environmental Management Program⁵. The organization is required to establish a program⁶ that identifies tasks and responsibilities to achieve goals and objectives for each function and at every functional level within the organization⁷. To ensure the effectiveness of the Environmental Management

¹ Abdel Moneim Ahmed El-Fiqi. (2008). Environmental Management of Urban Development, Master's Thesis in Urban Planning. Ain Shams University, Egypt: Faculty of Engineering, p. 81

² Environmental management systems. (2019). Guidelines for a flexible approach to phased implementation, Second Edition -05, www.iso.org, p30

³ Salman Hamdan Hamid Al-Daghimat. (2004). Environmental Management Problems in Jordan and Ways to Address Them, Master's Thesis in Public Administration. Jordan: Al al-Bayt University, p. 59

⁴ DEANNAH, M., GWENC., C., & ANDCHRIST, H. (2004). Five Elements for Organizational Decision-Making with an Environmental Management System, 38, 1927-1932. Environmental Science & Technology, p. 5.

⁵ Mohamed Abdel Wahab Al-Azzawi. (2002). Quality and Environmental Management Systems ISO 14000 and ISO 9000. Amman, Jordan: Dar Wael for Publishing and Distribution, pp. 204-205.

⁶ Fatima Talib, Op. cit, p.63

⁷ Environmental management systems. (2019). Guidelines for a flexible approach to phased implementation, Second Edition -05, www.iso.org.



Program, methods for achieving objectives must be defined and scheduled¹, with attention to legal compliance with environmental standards and regulations (**Al-Saffar, 2011, p. 9**). Developing programs and plans to comply with occupational health and safety and management quality is essential². Furthermore, it is necessary to design Environmental Management Programs to be user-friendly and easily adaptable at any time, involving stakeholders in program implementation³.

Secondly: Evaluation of ISO 14001 ISO Standard:

The actual implementation of the ISO 14001 standard has demonstrated a range of benefits and advantages for registered organizations, while simultaneously facing criticisms.

1. Benefits of ISO 14001 Certification:

Obtaining ISO 14001 certification brings several advantages to an organization, particularly in the legal realm by enhancing compliance with regulations and directives. Compliance with the standard improves the level of adherence to relevant laws and instructions within organizations and enhances the level of security from legal responsibilities, especially those related to the environment due to increased attention to environmental legislation⁴.

Moreover, ISO 14001 certification facilitates the organization's ability to obtain incentives from relevant authorities, such as less frequent inspections, easier industrial permits, and mitigated fines and penalties. Importantly, it aids in resolving international legal disputes with environmental dimensions, given its broad applicability⁵.

In the economic sphere, its advantages include cost savings resulting from reduced energy consumption and other resources, savings from product recycling, and lower waste disposal costs⁶. Productivity-wise, it enhances production efficiency to higher levels through programs that identify environmental aspects

¹ Fatima Talib, Op. cit, p68.

² Mohamed Abdel Wahab Al-Azzawi, Op. cit, p138.

³ Fatima Talib, Op. cit, p64.

⁴ Ahmed Selkhin, and Djilali Bouzkari, Op. cit, p.81.

⁵ Fatima Talib, Op. cit, p.92.

⁶ Ahmed Selkhin, and Djilali Bouzkari, Op. cit, p.81.



and impacts, setting goals that require operational efficiency improvements, both operationally and in marketing. Undoubtedly, it enhances competitive advantage in the global market and facilitates international trade, improves consumer relations, and enhances the company's brand image and stakeholder relations¹.

In the administrative domain, ISO 14001 certification increases employee satisfaction by confirming compliance with health and safety standards within and outside the company, improving cumbersome procedures, documentation, and promoting cooperation and coordination among various departments within the organization².

It's also worth noting that raising public environmental awareness is crucial for organizations, as it enhances their significance within the community and reinforces the image of the institution and its products in the minds of people. This improves relations with the community and increases trust in the institution³.

Finally, evaluating the benefits derived from ISO 14001 certification presents a challenge for organizations due to many anticipated benefits that remain intangible and difficult to assess in practice. Therefore, it is necessary to address criticisms directed towards it.

2. Criticism of ISO 14001 ISO Standard:

Despite the Environmental Management System ISO 14001's ability to facilitate many challenges and obstacles faced by organizations through adherence to multiple environmental standards, it faces a series of criticisms, the most prominent of which are as follows:

¹ DE WASSEIGE, O. (2020). Environmental management systems. Environmental Cell (UWE) , p. 11.

² Implementation, Second Edition -05, www.iso.org, p. 3.

³ Khalifa Ali Khalifa Al-Abdallat. (2015). Identifying the Influential Factors of the ISO 14004 Environmental Management System in the Presence of Quality Culture and Cleaner Production as Mediating Variables on Environmental Performance: A Case Study of Al-Mithalia Chemical Industries Company. Jordan: Middle East University, p. 18



1. It does not provide a specific environmental performance standard, despite assisting in the development of environmental policies and objectives¹.

2. It mandates access to all private information of industrial or commercial institutions, including highly confidential information that cannot be disclosed.

3. The possibility of multinational corporations exploiting lax laws and regulations in some countries makes it difficult to apply a uniform system worldwide.

4. The high cost of obtaining ISO 14001 certification, especially the certification issuance fees that vary based on the size and type of the institution, and the costs associated with system compliance requirements. These costs are divided into internal costs, which account for approximately 80% of the total costs, and external costs for legal consultants and auditors, which are relatively high²

Conclusion:

The international standard for environmental management systems, ISO 14001, serves as an organizational framework for managing environmental commitments and obligations. It is one of the most accepted and widespread international responses in this context. Organizations have adopted this management tool to help understand, assess, and improve environmental performance. This improves environmental aspects, reduces costs for their activities, products, and services, and integrates environmental considerations into management and decision-making processes to achieve better environmental performance. Additionally, it enhances resource and energy efficiency, leading to a higher return on investment and reduced environmental pollution.

The Ministry of Industry, in collaboration with the Algerian Institute for Standardization, should develop a national strategy to encourage, support, fund, and raise awareness among Algerian economic institutions seeking ISO 14001 certification. This certification is a crucial mechanism for improving the environmental performance of institutions and increasing production efficiency by

¹ United Nations. (1977). United Nations Conference on Trade and Development, Environmental Management Standards and Their Trade and Investment Effects on Developing Countries. Geneva, Switzerland, p. 8

² Paulette, L. (1999). Can the ISO 14000 series environmental management standards provide a viable alternative to government regulation. USA: MSU Centre, p. 7



optimizing the use of natural resources and electrical energy. This is particularly important as Algeria is home to many resource-intensive industries with high levels of pollution.

Results:

1. Organizations with ISO 14001 certification have a good image and better competitiveness, opening a new field of competition that challenges institutions with environmental management system specifications.

2. Benefiting from the international standard's requirements helps achieve global competitiveness and access to international markets.

3. The complex documents and procedures required to obtain ISO 14001 certification are obstacles to adopting the ISO 14001 environmental management system.

4. The high cost of adopting the ISO 14001 system, compared to the capabilities of institutions, is a barrier to their ability to adopt the ISO 14001 environmental management system.

5. Obtaining ISO 14001 certification does not mean that institutions have fully and completely met all environmental commitments; continuous improvement is necessary to fulfill their environmental obligations.

Recommendations:

1. Raise awareness among business owners about the ISO 14001 environmental management system.

2. Provide facilitation for institutions that implement the environmental management system.

3. Activate the relevant bodies responsible for disseminating standard specifications and explaining their application methods.

4. Educate workers on the importance of implementing the environmental management system.

5. Increase competition among economic institutions by establishing valuable awards for environmental conservation and the application of the environmental management system.

6. Offer low-interest loans to national institutions that have obtained ISO 14001 certification.

7. Support exports from institutions that have obtained ISO 14001 certification.



8. Provide financial grants to institutions seeking ISO 14001 certification.

9. Sensitize national institutions to the environmental importance of ISO 14001 certification.

10. Strengthen government oversight through national environmental laws and standards, and increase environmental fees to encourage polluting institutions to voluntarily adopt the ISO 14001 environmental management system.

11. Ensure the upper management of companies supports and is committed to fulfilling the obligations outlined in the environmental management system.

12. Provide continuous education and training for employees to understand the causes of environmental issues inside and outside the company and to fulfill their environmental duties and responsibilities effectively.

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