

Analysis of the impact factors on the deployment of an occupational health and safety management system in Moroccan Industrial Companies

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Abstract

Occupational health and safety (OHS) are now at the heart of the Moroccan government's concerns. Government, labour and management must put in place a project that defines everyone's roles, responsibilities and obligations to ensure health and safety in the workplace while prioritizing and giving the highest priority to prevention. The Labour Code has devoted a significant part of its attention to this aspect in order to protect the health and safety of workers.

However, a weakness is reflected in several aspects that affect in particular compliance with regulations and the implementation of an OHS management system.

The objective of this study is to identify the success factors that allow the successful implementation of an OHS manager system but also the failure or improvement factors that hinder the deployment of this approach.

Some avenues of reflection have been identified in relation to the exhaustiveness of the factors both of success and of identified failures. And also with regard to the relevance of adopting an OHS management system in accordance with international standards or even adapting to the constraints of Moroccan small and medium-sized Companies.

Keywords: *OHS system, ISO 45001, Health and Safety, risk management, HSE regulation, Sustainable development.*

1. Introduction

Prevention and risk control have been a concern of humanity since antiquity, since traces of prevention could already be found in prehistoric times. With the emergence of standards and guidelines for occupational health and safety management systems, companies and organizations around the world have begun to adopt them as a strategy for the future and a lever to harmonize requirements and involve workers in the implementation of prevention measures.

Evolution of OHS standards

The application of occupational health and safety standards in recent years has caught the attention of companies as a forward-looking approach that allows for the standardization of OHS practices and ensures the effective involvement and contribution of workers during the construction of the system and also when determining measures to prevent health and safety risks. The use of an OHS management system as a means of preventing OHS risks in the workplace and also as a tool for continuous improvement based on the PDCA principle (Plan, DO, Check, Act) has been strongly recommended for ten years now.

A significant number of standards and guidelines relating to OHS management systems have since been established by companies that have an interest in and responsibility for OHS. Several countries around the world have formally expressed their OHS strategies, which encompass both the system approach and OHS management. At the international level, the International Labour Organisation (ILO) published in 2001 the Principles of Occupational Health and Safety Management, which subsequently became a major reference for the establishment of OSH management systems and also the basis for national standards in this field. The approach of the OHS management system was favourably received as it benefited from the strong adherence to ISO quality standards (ISO 9000 series) and, subsequently, from the environmental standards (ISO 14000 series) and the success they were able to achieve. This model is based on hypotheses established in the early days of the natural and social sciences, but whose specificities and characteristics are similar to business management mechanisms. The common points between these models are: activities, progress, results and feedback.

A standard for the management of OHS should of course be based on the OHS management principles published by the International Organisation of Work (IOW) and in particular on the Convention (No. 155) on the Safety and Health of Workers, and could not be treated in the same way as quality and environmental issues. These reflections led to several conclusions and it was ultimately agreed that, given its tripartite organizational structure and normative role, the IOW was the recommended institution to establish international guidelines for the OHS management system. An experiment by the British Standard Institution (BSI) in 1999 to establish an OHS management standard under ISO supervision found strong international opposition and was ultimately rejected. The BSI will then establish guidelines for the OHS management system in the form of technical standards and resulting from a private initiative (OHSAS), with ISO deciding for its part not to formulate any.

The posts in the forums dealing with the subject of the history of standards were able to confirm, after two years of work and also after an international peer review, the fundamental principles relating to occupational health and safety management systems (ILO-OSH 2001). These principles were finally adopted at a tripartite meeting of experts in April 2001 and officially published in December 2001 after validation by the Governing Body of the International Organisation of Work. In 2007, the Governing Body reconfirmed the ILO's mission in relation to OHS, and made a request to ISO to abandon the idea of establishing a standard for the OHS management system. The principles of ILO-OSH 2001 are compatible with other management system standards, and it is also a single repository.

These principles have been translated into approximately 22 languages and have been adopted by at least 30 countries. This confirms the success they have been able to achieve. They have evolved after and in a very short period of time to become a basic reference for the establishment of OHS management systems. These principles include generic concepts that can be applied anywhere and easily used. In addition, thanks to their specificity, they can easily be integrated into other management systems.

Different versions of the standards are used by the organizations according to national requirements and the sector in question, but all these standards are based on the principle of continuous improvement modelled by the PDCA and also called the Deming wheel. Among these standards, those relating to OHS management systems intended for use by companies have been established by private organizations such as the American National Standards Institute (ANSI Z10), or the British Standard Institution (OHSAS 18000 Series).

Most recently, and more precisely in 2018, ISO adopted a new standard for occupational health and safety management systems - ISO 45001 - This new standard aims to harmonize and standardize OHS requirements, ensure continuous improvement in OHS performance, control and reduce risks in the workplace and therefore create better and safer working conditions.

2. Methodology

First, we seek to compare and analyze studies conducted in different countries around the world that deal with occupational health and safety. We seek to identify the success factors that allow the successful implementation of an OHS management system, but also the failure or improvement factors that hinder the deployment of this approach, which, before being a regulatory or normative requirement, is first and foremost a fundamental human right. Especially since it is also an essential condition of efficiency and performance for the employee and the employer.

A review of several articles and research papers related to OHS was conducted[1-17]. The keywords used in this research are: HSE audits, Safety Management System, Health, Safety and Environment Management System, Occupational Health and Safety, Risk Management, HSE Performance Indicators, ISO 45001, HSE Regulation, Sustainable Development.

Among the various studies consulted, we focused in particular on studies conducted in countries that are closest to the Moroccan context, namely Italy, India and Morocco. The majority of the studies consulted are structured in 4 main steps: 1st step "investigation of impact factors", this step consists in identifying the variables and determining a relationship between these different variables through brainstorming and consultation of experts.

2nd step "collection of information with a questionnaire", this step consists in developing a questionnaire based on the variables already identified in the 1st step, determining the rating scale and then testing it as a validation.

3rd step "analysis of the results of the questionnaire", this step consists in sending the questionnaire to the target population. Different methods have been adopted to collect data, for example through a combination of emails or survey methods using an Internet questionnaire. Make an analysis afterward according to different nails and based on scientific methods.

4th step "syntheses and conclusions", this step consists in proposing a model based on the analysis made previously, presenting the conclusion of the study and then conducting a critique of the study.

3. Results

3.1 Success factors

Management commitment, use of the PDCA and regulation are success factors that have been identified [4-11-12]. The commitment of management is the pillar of the implementation of a proactive approach to health and safety at work. To give this importance, the new versions of ISO standards stipulate that management must demonstrate leadership and commitment to the management system [18]. This commitment is reflected in the implementation of an OHS policy, the definition of objectives and the responsibilities and allocation of resources. In addition, it is the management that is directly responsible for the effectiveness of the management system. The success of such a management policy depends to a large extent on the ability of decision-makers to integrate this prevention approach into a logic of continuous improvement and to win the support of the company's main stakeholders. Management's commitment is the spearhead of any OHS approach.

The control of legal and regulatory compliance in occupational health and safety is considered to be the initial and essential step that companies must take [19]. The enforcement of binding laws pushes companies to protect their employees and facilities and to cope with legal or media pressure. Complying with regulations is a key success factor for the implementation of an OHS approach.

3.2 Factors for improvement

The failure or improvement factors identified are the safety culture and risk assessment [4- 11-12]. Being certified on a safety management system will be a success if it has made it possible to bring all staff together around the OHS policy and has also enabled a change in behaviour with regard to risks and the way work is carried out. Indeed, in order to create an effective workplace health and safety culture, an organization must not only invest financially in a prevention program; it must make a collective change in the attitudes of both its workers and its managers. Although adopting this path is more difficult, it is certainly more effective in the long term. While a program can reduce the number of accidents in the short term, it will not make workers aware of and responsible for their safety and that of their colleagues. The OHS culture is defined as a subset of the organizational culture. The latter is a set of values, beliefs and expectations shared by employees that influence their behaviour at work. It is the central element in all three dimensions of the company: the climate, organization and behaviour at work. The following table summarizes the levers on which action can be taken to influence each of the dimensions and produce a change in workplace health and safety culture [20].

Table 1: Integrator table of the different concepts

Level	Dimensions	Factors	Levers
Internal psychological factors	Climate Individual: cognition, emotions, feelings	Predisposing Beliefs, attitudes, values	Job satisfaction Competencies Commitment to the organization Knowledge
External observable factors	Organisation Management systems, laws, regulations	Facilitators Environmental and systemic aspects	Management commitment Management actions Communications
	Compounds at work Actions and decisions	Reinforcement Rewards and punishments consistent with behaviour	Participation in decision-making Work environment Work habits

The success of a risk assessment process requires:

- The commitment of the management through the implementation of human, financial and material resources and means.
- Workers' participation to involve them in risk prevention.
- Determination of relevant actions that control the root causes of the risk.
- Risk analysis management by managers.

3.3 Moroccan context

Decent work, as defined by the International Organization of Work, is the ability of every individual to have access to productive work characterized by an adequate level of freedom, equity and security. The right to work in a safe and healthy environment is an essential element of the concept of decent work. The health and safety of workers is, in our time, an essential condition for effective work, and also a key factor in individual and collective performance. Workers' health is characterized by a state of physical, mental and social well-being, and is extremely linked to safety. Physical and mental health can be impacted by a dangerous environment or situations. The Moroccan authorities and the social partners are aware that guaranteeing health and safety in the workplace is not only a major challenge for the development of the worker and the company's performance, but also a guarantee of economic competitiveness. The Kingdom of Morocco has an important legal arsenal, particularly in terms of health and safety at work. The Labour Code has devoted a significant part of its attention to this aspect in order to protect the health and safety of workers and to comply with the relevant international conventions. In this respect, Morocco has ratified Convention C187 of the International Organization of Work concerning the promotional framework for occupational safety and health. The goal of the strategy is to gradually achieve a healthy, safe and healthy workplace [21].

Data on accidents at work and occupational diseases generated over the last five years are not available. To remedy this situation, an information system for collecting data on workplace accidents is being developed, which will make it possible in the near future to collect relevant indicators on the evolution of TA in the workplace [22].

Nevertheless, some sources have produced the following information:

- The insurance and social security supervisory authority estimates that the average annual number of work accidents declared between 2011 and 2014 is: 43155accident/year

- The Moroccan Federation of Insurance and Reinsurance Companies and according to its activity report "Situation Liminaire 2015" estimates that the costs generated by industrial accidents were recorded on average between 2013 and 2015 is: 2148.26 million dirhams [22].
- The Social Security Directorate and according to the report drawn up by the external social protection services, estimates that in 2016 the number of accident at work declared by these services was 7973 and the number of occupational diseases was 99 [22].

Accidents at work are distributed as follows:

- 684 accidents that did not result in disability;
- 4272 accidents with temporary disability;
- 972 accidents with permanent disability;
- 147 fatal accidents;
- 1273 accidents with unknown outcomes.

Morocco's national OHS profile, with selected indicators, is presented here [22]:

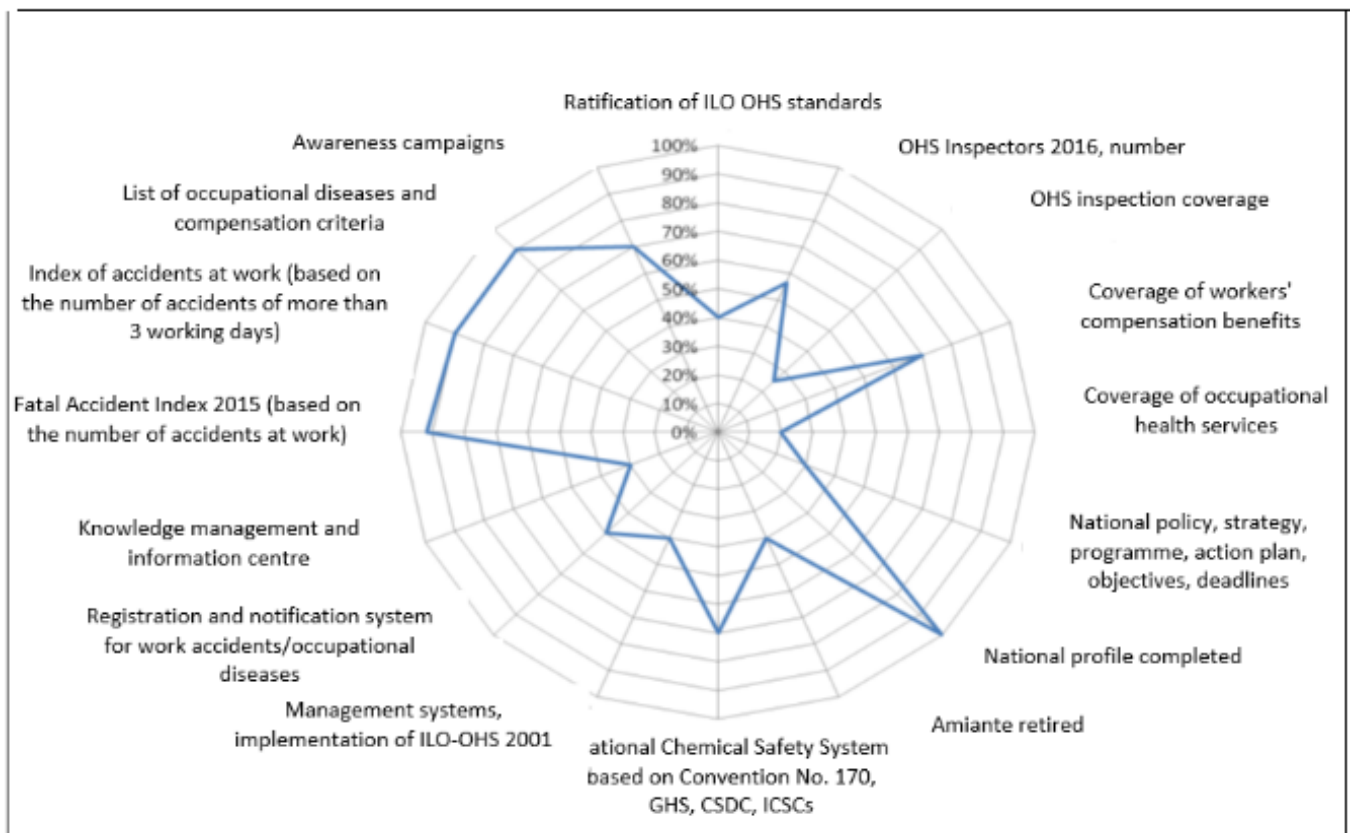


Fig.1 Morocco's national OHS profile

The OHS management system is a fundamental tool for a better organization of the company and for improving its performance.

The national profile reflects a weakness in several aspects, in particular the number of OHS inspectors and the coverage of the OHS inspection, which does not exceed 25%, which makes it very difficult for the state to ensure compliance with the regulations, knowing that it is a lever of success for any OHS approach. Similarly, the adoption rate of an OHS management system or the ILO 2001 principles is relatively low, representing 40%, which shows a low motivation or involvement of company management to implement its management approaches, although it is also a success factor.

4. Conclusions

Over the past ten years, companies have been moving towards the implementation of an occupational health and safety management system in the same way as traditional quality and environmental management systems. An occupational health and safety management system is an element of the company's overall management system. The choice to adopt this system reflects a desire to prevent occupational risks by basing itself on a reference framework and by initiating a change management approach that must be driven and supported. To successfully implement an OHS approach, it is necessary to rely on success factors and avoid failure factors. The motivations for developing an OSH system are not the same from one country to another.

Workers' and employers' perceptions of OHS in Morocco are different from those in other countries for historical, cultural and also because the workplaces are different. According to the Federation of Small and Medium-sized Companies, 95% of the economic fabric is represented by Small and Medium-sized Companies, employing more than 50% of employees in the private sector, the illiteracy rate remains high and the culture of the written word is not dominant in these companies [20].

In this context, the following reflections can be made:

- Are the success and failure factors we have identified exhaustive or do we need to dig deeper to identify other factors?
- Is it relevant to adopt an OHS management system according to ISO 45001?
- Would it not be more appropriate to set up an OHS management system in stages and adapt to the constraints of Moroccan Small and Medium-sized Companies?

The next step in our study consists in further deepening these reflections in order to be able to answer these questions; the result of this study will be published in a future issue.

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