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PROCESS OF INTEGRATING QUALITY, FOOD SAFETY, HEALTH AND SECURITY AT WORK, AND ENVIRONMENTAL CONCEPTS IN FOOD INDUSTRY

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ABSTRACT

Morocco, a developing country, has decided to open its economy to the international market. This approach presents many opportunities for development of the domestic market, and export activity. However, the bar requirements faced by Moroccan companies will rise (normative requirements, needs and tastes of foreign consumers, international regulations ...).These will need to provide a competing product quality to that of foreign produce, while respecting their internal environment (working conditions) and external (natural and social environment).To meet these challenges, number of companies use international management standards. In this paper, we propose a methodology to integrate ", Quality, food Safety, Health and Safety at work and Environment (QSHSE)" concepts in a production process taking into account the requirements of ISO 9001, ISO 22000, ISO 14001 and OHSAS 18001.After showing interest Integration QSHSE concepts in an organization, as well as various studies in this area, we present a methodology for integration.

Keywords: Integration, management, ISO, OHSAS, integrated management system.

INTRODUCTION

At the beginning of 2000, due to revolutionary economic changes that have occurred, we are witnessing an inevitable phenomenon: the globalization of the economy. The globalization of markets, large and small, like a tsunami that swamped the context of ideologies, religions, cultural traditions, language or national borders, tariffs or regional regulations. In an ever more assertive in pursuit of "quality management" context now the twenty-first century has become aware of the complexity of the socio-economic environment it faces, where his responsibility immediate profitability is no longer a guarantee sustainability. He must now demonstrate its ability to "last" respecting its future, its social, economic and ecological environment.

Faced with such a situation more and more companies are changing their ways of thinking and managing. They require to adapt the changes that are needed to ensure their survival and future prosperity. Many of them adopt a new style of management as well as strategic technology. We begin to see new concepts and methodologies, such as total quality management *(TQM: Total Quality Management),* total productive maintenance *(TPM: Total Productive Maintenance),* continuous improvement *(Kaizen),* the deployment of the quality policy *(Policy Management),* concurrent engineering *(Concurrent Engineering),* Activity Based Management (ABM: *Activity Based Management)* standards ISO 9000 quality systems, environmental standards, etc. ... (Todorov, 1994).

As such, the use of standardization is one of the best solutions, particularly for developing countries, including ours: the Kingdom of Morocco. These countries with limited resources, the need for wise investments is more acute than in stronger economies because there is no margin to absorb errors.

However, despite the important role of standards in the management of economic development, the installation of standardized management system and the adoption of standards pose enormous challenges for businesses as well as on the organization, on the structural dynamics and financiers.

In order to overcome the constraints, the company faces many factors encouraging the overall approach through an integrated management system quality, safety and environment. These factors are: productivity, optimization of resources, risk reduction, and finally, the principle of consistency. This last factor is the unifying concept of integration. Indeed, when a company manages its performance by displaying an overall vision and based on separate and independent systems, inconsistency moved (Mathieu et al., 2003). For this, the international experts of

new versions of ISO 9001:2008, ISO 22000, ISO 14001:2004 and OHSAS 18001:2007, they structured their standards in such a way that they are applicable to converging together. Then it is given the opportunity to any company that wants to set up a system of quality management, safety and the environment that gives consistency to their management.
In this work, our contribution is to develop a methodology for integration of QSHSE concepts in the process of maintenance. After showing the reasons for integrating QSHSE concepts we develop our methodology based on five steps: internal external diagnostic /, analysis, planning, implementation, measurement and validation. Finally, to validate the proposed methodology, we present a case study in a dairy.

DEFINITION OF CONCEPTS

The concept of quality (Latin: *qualitas)* is very old. Experts recognize the beginnings in the famous Code of Hammurabi, king of Babylon (1792-1750 BC AD) and in the *Book of Crafts* Etienne Boileau, in St. Louis, and then of course in the famous phrase J.-B Colbert in 1664: *"If our factories needed to force care, the quality of our products, foreigners find advantage to provide in France and money flow into the coffers of the Kingdom"* (Croguennec et al., 2010).The official definition provided by ISO 8402 is intended more generally, the quality is *"the* totality *of characteristics of an entity that bear on its ability to satisfy stated or implied needs."*It is also stated that these requirements *"may include aspects of performance, ease of use, safety aspects related to the environment, economics ...".*This definition involves the notion of implicit needs that should not be overlooked by the industrial (ISO 8402, 1997).
Security is "a state of calm and confident of one who believes in the spirit of harm." This term is now used to ensure food safety in the concept of "food safety." According to the French standard NF V 01-002: 2003 on the hygiene in the food industry (IAA), security (or food safety) is assurance that food will not cause harm to the consumer when they are prepared and / or eaten according to their intended use. The risk of food poisoning to the consumer remains weak but is still largely reduced by the application of simple and effective hygiene. These rules apply of course the producers, distributors, but also each individual.
For health and safety, it is a field of "security company" covering "health and safety" and includes accidents and occupational diseases. As defined in ISO 8402 (1941) § 2.8 standard, that is to say in the context of quality assurance for product quality and customer satisfaction, security is *"the state in which the risk of injury or*

damage is limited to an acceptable level. "None of ISO management systems does include definitions of security". It is true that the possible situations related to the concept of security of various types and correspond well to the need for trust, peace of mind, in highly variable domains (Froman et al., 2009).
The concept of environment defined by the ISO 14001 standard is as follows: "Environment: *the environment in which an organization operates, including air, water, soil, natural resources, flora, fauna, humans and their interrelations* "(ISO 14001, 2004). This definition stresses the universality and infinity of the environment, which includes the whole universe, unlimited, and includes everything in the universe. The definition includes a basic shade, human beings are not included in wildlife. Mankind is thus considered specifically and somehow above the other components of the environment. The French standard AFNOR X 30-301 gives the following definition: "Environment: *together at one time, physical, chemical and biological agents, and social factors that may have an immediate direct or indirect, or future on living organisms and human activities.* "Again, we note that human activities are listed in addition to living organisms, confirming the primacy of the human race in the environment concept. In addition, this definition adds the concept of effect "forward", very much the central concept of sustainable development (Jounot, 2010).

ISSUES CONCEPTS

The concern of any business is to provide products or services that satisfy customers at the lowest cost in a competitive environment. But it must always be borne in mind that the modern economic activity has the following two major characteristics:

- liberation and globalization of trade, exposing companies to international competition;
- the complexity of the process of design, production, distribution of products and services.

It should be borne well in mind two additional fields of application of the term as:

- on one side there is the "quality of a product or service";
- the other side, there is the "quality of the process."

This duality is fundamental, first vis-à-vis the economic and commercial aspects of quality management: it is improving the quality of process quality are improved offer while controlling or even reducing costs by cost control detection and prevention of quality, because it is cheaper to "right the first time."Make right the first time involves systemically meet not only the requirements of customer, but also all the requirements of the activity, in particular law or regulation, including

those relating to safety and the environment. The issue of quality assurance is the establishment of "relationships of trust" can then move towards a true partnership.
With the certification, a step is taken, since it implies the intervention of a third party certification body, which issues a written certificate of conformity of a product, process or service specified requirements, from a recognized international or national (Froman et al., 2009) repository.
The food safety is a major issue in the Economic and Social Council in 2001 (CN 2001). This is primarily a public health issue. It is difficult to count deaths, diseases and disorders of varying severity passengers directly attributable to food and, more importantly, to feed a whole : surveillance and diagnosis are uneasy because the effects can be scattered in space, delayed in time, and nonspecific. The causes of these deaths, diseases and disorders are mostly multi-factorial.
In the case of cancer, it is estimated that the risk associated with diet is the cause of 35% of the 150,000 annual cancer deaths recorded in France according to the report of the orientation on Cancer 2003. With regard to cardiovascular disease, " *the level of evidence of the beneficial effect of a balanced diet on cardiovascular risk is very high.* ". Anyway, neither the public nor the politicians and administrators of public health can not admit that the food quality is not as perfect as possible (Chambolle, 2003).
Economic and trade issues safety are not reduced. Companies responsible for the placing on the market of foods, that have proved dangerous, risk their reputation and even their existence, and crises that develop in episodes such as the "mad cow" disease (bovine spongiform encephalopathy, BSE) or when poisoning of microbial origin can reach all companies become suspicious of a whole branch. It should also take into account the costs of mortality and human morbidity: the United States, hospitalization costs and lost productivity caused by poisoning of microbial origin are estimated at respectively 3 and 8 billion per year.
Furthermore, the criteria for food safety are becoming increasingly important in international trade, where they are, indeed, a tool for consumer protection but also, if used as a "non-tariff barrier" to trade and a weapon of commercial competition. This is why the World Trade Organization (WTO) adopted an agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), which defines the basic rules for food safety and health standards for animals and plants.
Another defy for enterprise is security at work. The main challenges of security are human and accidents related to work order. According to a report from the World Health Organization (WHO), 120 million work accidents including 200 000 deaths every year in the world lists.
There are "social indicators", comparable to quality indicators for assessing the social climate of a company. When working conditions are difficult and the risks

are felt but not treated, social indicators are unfavorable. Safety, well designed and built, is a factor to improve the social climate of the company and trust the staff, thus contributing to improved business efficiency.
In addition, the legislature is increasingly the owner in terms of civil and criminal liability (for example, the design of the premises). No one is safe from a catastrophic generator is unexpected, but in this case, the judge will consider the demonstrated willingness of security contractor.
Economic and social issues are also very heavy security at work. As a matter of quality, it covers both the cost of prevention and repair costs. Although indirect costs are difficult to assess, many authors agree the estimated 2 to 4 times greater than the direct costs.
Security is a brand of corporate vector: the safety of its products, of course, but also the safety of personnel. With the development of industrial tourism, the need is clear. Moreover, the growing responsibility given by the legislator to the owner encourages it to look more closely at the working conditions of its suppliers, conditions gradually become a selection criterion to switch one or command market (Froman et al., 2009).
As to evolve protection laws of nature, especially the mobilization of associations of all kinds to the courts in cases of proven pollution, make the cost of repairing environmental damage increasingly important. At the same time investments associated with the prevention require a rational and methodical approach to avoid unnecessary costs or poorly targeted.
The second challenge is related to the corporate image. The speed and coverage of media have become such as the reputation of a company can, in a few hours, be strongly affected by the revelation of an environmental accident.
Finally, the emergence of the concept of sustainable development encourages companies to enhance their image through concrete action on environmental, social and financial performance, with the aim to preserve for future generations.
These actions formalized and applied in specific reports are evaluated by independent rating agencies, which has the effect of a hand, to make it more readable commitment "citizen" companies, and secondly, to improve the overall assessment of their actual performance in the eyes of financial decision-makers.
On the other hand, the regulatory challenge is weighing. The number, constantly changing and complex regulations, case law, the timing of decrees, the stratification of national and European courts ... are a real headache for non have a solid legal services companies .
Today, companies can no longer ignore or underestimate the consequences of not taking into account elements of the three challenges mentioned above. However, being aware is not enough to solve the problem, why it is essential to have a

systematic approach and use methods to define an efficient environmental management (Froman et al., 2009).

DEFINITION OF SMI

A quality management system is the customer satisfaction of the company (those who purchase and / or use the product) with the conformity of products and control of its processes. Engaged in a process of continuous improvement, companies that have implemented a quality management continuously improve their products, services and activities. An integrated system will, beyond customer loyalty, search also environmental protection and safety of persons at the workplace.
Therefore, if a quality management system is a management system that, in a company will determine and implement a policy to improve customer satisfaction, an integrated system will formulate and implement QSHSE policy guide the company in a logical risk management to improve its performance in environmental, health and safety of its staff.
So there is a change in the concept of customer.
As part of a quality approach, the customer is someone who buys and / or uses the product delivered by the company in the context of an integrated management system (we'll call "SMI"), the notion customer, interested party (group of people with an interest in the operation or success of the SMI) will expand to include the environment, the staff at the workplace, a person present in the company ... The implementation of a QSHSE system ensures the inclusion of environmental and social aspects in the research of customer satisfaction: we must satisfy the client but not at any price! It must satisfy the customer, but meeting the requirements of the regulations, respecting the environment and a constant concern for health and safety of people at work (Gillet-Goinard, 2006).
We can also talk of expanding the concept of environment. And the company takes into account the requirements of the external environment (market, society, associations, the QSHSE regulations, the natural environment ...) and those of its internal environment (suppliers, employees, shareholders ...).
The concept of integrated management system (IMS) has existed for several years, particularly following the emergence of the environmental management system in 1996. At first, the SMI in its most common usage was for systems integration: Quality, Safety and Environment or, QSE. This integration is not only structural, it obeys a mainly economic issues together. The major challenge of this integration is the formalization of a management tool that responds adequately to expectations conscious leaders, informed and responsible (El Yacoubi et al., 2007).

PROPOSED INTEGRATION PROCESS

In our study, we developed a model of SMI QSHSE, the proposed approach was applied to a unit of the food industry a "company milk and dairy products."
Indeed, the food industry is the second largest industry sector with almost 30% of total industrial production, according to a study by the Ministry of Economy and Finance. In 2008, the sector employed more than 5,600 permanent jobs and 1,950 businesses, primarily SMEs, which accounted for 25% of total industrial establishments. Regarding production, between 2002 and 2008, it reached 67 billion dirhams, of which 13.6 billion from exports. In 2009 exports reached 16.6 billion dirhams. These data show that the industry has great development capabilities, which should be added that it is not quite being organized, it is fragile and uncompetitive. Industrial activities that include the sector are: fruits, vegetables, fish, canned meat (beef and lamb), poultry, beverages, oils, dairy products, flour, cereals, food for animals, tobacco, in addition to other food products. The first three activities are most important and are export-oriented, with fish, and the rest is exclusively developed to meet domestic demand.
Given that the food sector is strategic for economic and social development of Morocco, many agricultural and rural programs, as well as structural reforms are carried out. We can take the example of the Green Morocco Plan and the Pact for Industrial Emergence.
Our contribution is to provide a simplified view to implement a SMI QSHSE by industries in this sector and thus participate to promote, develop and allow him to keep his participation in the creation of added value in the country.
Indeed, for the agri-food industry challenges QSHSE are ubiquitous, especially with the complication of both national and international regulatory and economic environment. In addition to accompanying these industries to cope with new changes due to upgrade environmental legal arsenal and safety, environmental impacts (Fellah et al., 2012; Omont, 2010) and security have been taken into consideration in our choice of the unit.
The reasons for such integration are:

- understand and control their pollution and better manage risk,
- prevent, anticipate malfunctions that may affect the quality of products / industrial process, interfere with the environment or the safety of property or persons,
- make savings,
- implement a comprehensive action plan,
- gain a competitive and image earnings advantage (Dakkak, 2011).

Like any project, the integration is based on the assembly of components, joints and coordination as shown in Figure 2. The presentation of our integration approach takes into consideration the requirements for three benchmarks on which we based our study: ISO 9001: 2008, ISO 22000: 2005, OHSAH 18001: 2007 and ISO 14001: 2004sur a comparative basis through similarities and differences (Bahmed et al., 2004).

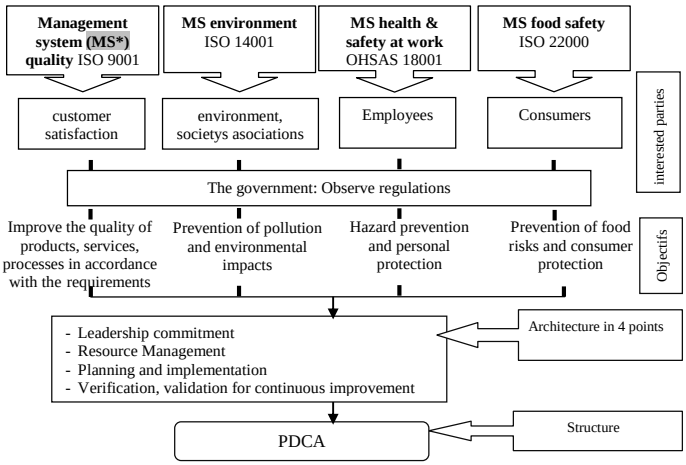
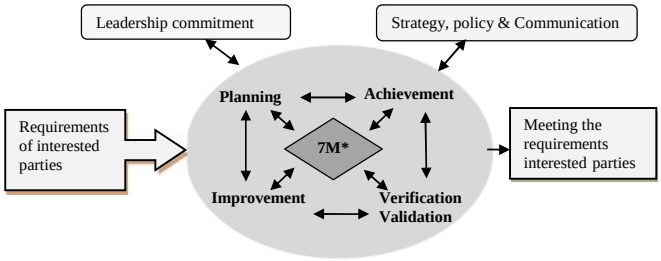


Figure 1 : Components, aims and structure of management systems studied

As already mentioned in the El Yacoubi's work, to overcome the ambiguities of mapping processes (vertical / horizontal), proliferation risk and methodological or structural cleavage, the model proposed by this study process removes the concepts of cross- horizontality and to move towards the concept of generic processes. The following model is proposed for the integrated management system oriented framework approach process.



**7M: manpower, middle, materiels, raw materiel, method, management, money*

Figure 2 : concept of the proposed SMI

The approach adopted in the field is as follows:

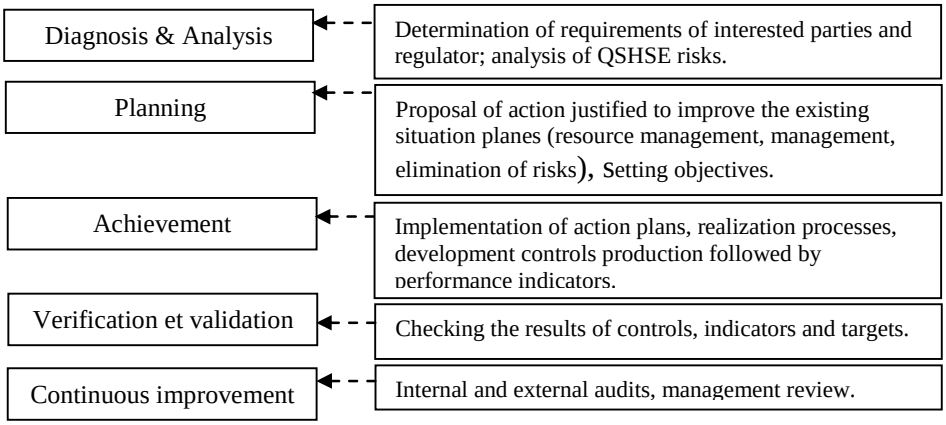


Figure 3 : approach to integration

DISCUSSION

In addition to saving time and money, SMI well designed from the outset, has many advantages, regardless of whether the fine analysis of the reference concerned shows that they are very compatible with each other, even for the purposes considered common or similar. As follows:

1) A SMI removes redundancies and avoids the frequent contradictions or inconsistencies between the different systems for the following reasons:
2) An SMI can save time by combining four projects into one.

3) An SMI can deploy a single QSHSE policy and centralize authority under the responsibility of a single manager QSHSE.
4) A multi QSHSE study allows one hand to identify priority areas for improvement, on the other hand to identify strengths and weaknesses, opportunities and threats of companies who have been diagnosed, without omitting important aspects.
5) An SMI can set goals, define and implement means, actions, methods ... in a coherent and harmonized approach even if this is done asynchronously.
6) An SMI can offer solutions QSHSE solutions while considering the function of each process.
7) Somehow, a SMI allows exclusion process based on the evolution of the consideration of relevant standards while remaining consistent, immediately and permanently, as soon as the decision to include an additional field is taken.
8) A SMI provides an overview that provides a better understanding thus better overall efficiency, including enforcement personnel.
9) A SMI greatly simplifies the documentation, if it is built with this in mind.
10) SMI makes a more efficient training and control of the activities of each, for simplification and overall view that contribution but also the logic and coherence it allows. Any task at hand already incorporates in itself the QSHSE aspects that are inseparable in practice in the actions and operations to drive the actions to be performed and the functions to be performed.
11) An SMI has the most appropriate approach to the successive integration of all QSHSE requirements during the development of innovations and progressively changes the company: products, processes, facilities, equipment, etc..
12) An SMI is an outstanding opportunity to give a new impetus, a new pattern of internal mobilization and a new dynamic to the company. This is especially true as the company has seen its "glory days" for certification or during other projects and it seeks not only to consolidate its gains but to move all e alleviating constraints the past heaviness or overdose documentary.
13) A SMI optimizes resources: one team of auditors, for example, to audit in a single integrated system rather than through three separate audits, to ensure a constant balance in decision-making.
14) The extension of a quality management system for the safety or the environment is a step towards total quality is excellent, because currently, the quality concerns as well the quality of products, quality of work, quality environmental (Ullmann, 2009).

Finally, do not are completing the statement of the real benefits of SMI without answering an objection sometimes advertised: no, an integrated management

system does not mean a centralized management. Rather, the integration of all the elements of a SMI QSHSE results in a simplification and increased motivation. The one and the other are sources of greater involvement and increased accountability, guaranteeing a surplus decentralization (Gillet-Goinard, 2006). The integrated management fits into the vision of a system integrator management. Such a system depends on its ability to host as and when required, new aspects without risk of inconsistency and the N O excessive rigidities (Connan, 2005).

Many small and large companies have attempted the scope of integration and all testify that:

- QSHSE one direction, and a common language system has four deploy QSHSE system a "harmonized and consistent manner."
- A significant improvement in results which resulted in the last five years:
  - A sharp decrease in the number of accidents (20%).
  - A sharp decrease in the number of quality incidents, safety and environment (50%), because if QSHSE investment is a burden or a cost, they can also be a means to achieve some economies (scrap product, material, d energy, cost of accidents), to improve the image of the company, or to develop a competitive advantage over the competition (Boiral, 1997).
  - For the environmental aspect, the energy consumption is the component that has the greatest results. Topping the list, there are spending cuts that generates an economic benefit, something that most concern the company. Second, the focus is on the reduction of the costs of labor. Many dysfunctions are related to improper adjustment of machinery, maintenance personnel represents a significant expense in the company may be assigned to something else. In third place, although it does not yet many companies, reducing the environmental impact is becoming more important. Indeed, the cost of compliance with environmental regulations is less costly for companies that do. On the other hand, this approach is combined with operator training in the optimal use of resources, taking into account the safety and health of personnel. These new operating habits to avoid malfunctions and accidents, which limit the costs of safety rules. Note that environmental policy can only improve the image of the company as bine nationally and internationally.

The SMI not only advantages but also disadvantages. According to Brunelle (2005), integration may in cases of mismanagement or lack of assimilation system, jeopardizing the registration system because of the mismanagement of the other system (quality / environment).It is also difficult to achieve p Read full integration and harmonized when the quality (safety) and the environment (safety) are the responsibility of two separate groups. We must also not neglect the costs of managing this project in finance, resources (personnel, training, equipment) and

organization. In addition, adopting a SMI is the first step towards social responsibility, thus a seamlessly with its surroundings.

However, analyzing the advantages and disadvantages of SMI, we find that the benefits are far greater than the disadvantages. U do business that has made a QSHSE system has an effective system of risk management, a coherent management tool that strengthens its position in a highly competitive market by allowing him to develop a responsible corporate image that knows risks associated with its business and chose to reduce to a reasonable level. It limits the dangers of possible contradictions between the three systems and affirms its commitment to transparency playing. A QSHSE system is a first step towards sustainable development, the concept combines well three objectives: economic efficiency, social equity and environmental protection (El Jaouhari, 2008).

The food business has everything to gain from such a project. Consumers of these products and the regulatory authorities (national and international) are among the most stringent. Several studies have indicated the part of the cost of obtaining quality COQ turnover of the company. These costs represent between 25 and 35% of turnover. The distribution of costs between the different components of COQ is in these companies, as follows: 5% in the cost of prevention, 20% in the cost of compliance, 75% in the cost of failures.

To reduce the latter cost and COQ, identify sources of error and eliminate them. This requires a greater role in the prevention and compliance investment. (Charvet-Protat, 1998).

The share of the costs to food safety is the same as that given to quality management. But the stakes are higher. A food borne illness can cause death at the national level see international thing that can lead to industrial sentence and put the key under the door. So standardized management of this component, not only allows a large-scale conquest of markets, but also to perpetuate the current activity.

The ILO estimates that the number of people who die annually as a result of an accident at work or an occupational disease to 2.5 million. Over 270 million workers are seriously injured and 160 million suffering from work-related diseases. According to the same sources, the cost of these claims avoisinent 4% of GDP.

In the South, the installation of polluting and hazardous industrial activities is often accompanied by a worsening of the industrial and health risk because of weak prevention devices and ignorance of the dangers. For the company, the security breaches and health at work have direct incremental materialized by the revision of insurance premiums, expenses caused by the repair of damage not covered, as well as the disruption of production and a temporary decrease in productivity.

Then there are indirect effects associated with the motivation of workers, the deterioration of relations at work, the degradation of the reputation of the company

and the negative reactions from partners and customers (co-responsibility projects, interference services Control ... etc.).
But the company also supports a high price in terms of damage to public facilities, disruption of public services and social care for victims and their families economic and social costs, since a large part of them n do not have access to adequate coverage. The accidents also deprive the country of productive agents whose training was costly to the community. Frequency contributes to alter the country's attractiveness and power of other social ills such as traffic accidents (CGEM, 2009).
Currently, among the obligations of international bodies such as the WTO is ensuring the safety and health at work, several multinationals have to undergo criminal checks because of this as Samsung has been accused of making a portion of its parts in factories who employ minors.
For environmental management, the sub-sector of the agricultural industry has seen its consumption increase: it was multiplied by 2.7 between 2008 and 2012.The IAA and consumes 14.3% of the total energy consumed by all industries, mainly in electrical form, 21% of the electrical energy is consumed by this sector, but only 4.5% thermal energy.
The measures put in place to obtain immediate practical results, for the same level of production and the same service rendered, the energy gain is on average 20% of consumption (at 15% of the thermal energy and 5% at the electric power). The savings range from 200,000 to 1,500,000 dirhams per company.
The simple act of putting measuring instruments and motivate employees allows between 2% and 5% savings on the overall energy bill. Thus, these small savings measures awareness e maintenance can help, after some time, to finance the replacement of old equipment with new efficient pus. You should know that boiler is only 2% of its total operating budget throughout its life, it is 97% fuel ! The remaining 1% is maintenance, so investing in a more efficient boiler; you can quickly save the purchase price in the form of fuel. The financial sector is certainly the most important industrial and most stimulating to take action on environmental management aspects. However, the results relate as much energy resources that are consumed more efficiently, avoiding their loss and the creation of pollutants in large quantities (effluents, black smoke ...) (Hamidi et al., 2013).
For solid waste, the quantities produced vary with the nature of industrial activity, where the food industry represents about 25% of the total and the ^{2nd} row behind the chemical and para-chemical industry. New projects have been or are in the day to see the creation of the stock exchange of industrial waste. This will stimulate the exchange of various types of industrial waste through the linkage between industrial holders seeking a pathway for their resource waste and industrial Repo secondary raw materials. This will have a direct impact on corporate finance, but what interests us is the improvement of solid waste management (CGEM, 2012).

For the management of the wastewater problem, new alternatives exist such as new treatment of waste water producing energy. After treatment, the water meets the standards of direct discharges may be discharged into the municipal system. With a maximum size, these plants treat to 2.000m^3 of water per day and are combined with a system generated biogas treatment. Energy 1.000kW is recaptured and used in co-generation to produce electricity and hot water (Ullmann, 2009).
Several companies around the world have adopted a SMI is integrating the four components that we discussed is few. However, despite the importance of integrating these three concepts in an organization or a function, found in the literature few studies have dealt with the three concepts in an integrated manner. We cite, for example, the work of El Yacoubi et al. (2010) and Digiukio (2011) have proposed a model of integrated management system. This model is a decision support tool for risk control and performance improvement of the organization and also work (Bakiri, 2006; Bahmed et al., 2006) who proposed a guide to conduct and evaluation systems that integrate concepts QSE. However, most work in this area deal with different concepts separately (Ghemraoui, 2009; Gaultier et al., 2009; Deeb, 2008; Mazouni, 2008; Jacqueson, 2002), or by couples: environment-health and safety at work (Savary, 2009), or quality-environmental (Boiral, 1997; Breunelle, 2005; Glandières, 2005).

CONCLUSION

The industrial world has undergone a permanent change more pronounced in recent years. This accelerated pace of change causes a form of uncertainty that requires companies to develop a capacity for innovation and adaptation.
The market is changing and the economic environment is characterized by increasing economic competitiveness and increased product diversification. Therefore, the evolution of technology is accelerating and for more all business activities. The management system of the company is at the heart of decision-making and management policies and strategies. The complexity of the environment, and the plurality of requirements requires to manage many risks affecting the various sectors of the business environment **(DHIAF, 2007).**The use of international standards of management in an integrated framework, considering their similarities and convergences allows companies to reduce their management costs while improving efficiency. This is what we have tried to show in this work by proposing a QSHSE SMI. However, integration is not only advantages but also constraints at both the organization and finance, something that remains to be determined in other studies.

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