

**The Role of Occupational Safety and Health Standards in improving Employee Performance in an Agricultural Equipment Company (Sidi Bel Abbes- Algeria)**

**Benchiha Kada Hichem**

Djillali Liabes University (Algeria), [hichemkada@yahoo.fr](mailto:hichemkada@yahoo.fr)

**Received: 17/08/2023**

**Accepted: 27/12/2023**

**Published: 30/12/2023**

**Abstract:**

The study explores the role of occupational safety and health standards in improving employee performance in companies and to demonstrate that the implementation of occupational safety and health system management standards has an effective goal in reducing costs resulting from losses and injuries; besides it leads to increasing productivity by providing a safe work environment for workers. This study employed the descriptive research design from the quantitative approach, and a sample of 120 employees was drawn out of 240 workers from an agricultural equipment company in Sidi Bel Abbes after performing a stratified random sampling. 110 questionnaires were retrieved out of the 120 questionnaires distributed to workers. After reviewing them, we excluded 10 questionnaires that were not valid for analysis and on 100 questionnaires only that were valid for statistical analysis. In order to address the hypotheses of the study, we used the statistical package program SPSS 23. The findings revealed that occupational health and safety policies have a statistically significant effect on employee performance.

**Keywords:** Occupational Safety and Health; Occupational Safety and Health Standards; performance; employee performance

**Jel Classification Codes:** J28 , L25.

## 1. Introduction:

Employee performance is crucial to companies' managers who strive towards improving it within their own institutions. As employees are the most important resource in any company, many companies have become concerned with the implementation of Occupational Health and Safety in order to provide a safe work environment for workers. In an effort to enhance the performance of employees, companies often resort to setting up workplace safety programs to prevent workplace accidents and protect workers from the risks resulting from unsafe workplaces that cause industrial injuries and diseases. Thus, companies with different sizes and purposes strive to maintain their resources, especially their human resources which are the backbone of the different company's operations, by establishing and implementing Occupational Safety and Health systems to ensure are not injured or become sick because of workplace hazards. Occupational Safety and Health systems are essential to any work environment. They not only preserve workers and their lives within companies and provide a safe and healthy working environment, but also the business itself.

It is worth noting that work accidents and injuries are one of the most difficult problems faced by any business, as any harm to workers can be tragic. Henceforth, more attention was directed to OSH by enacting different laws in order to protect workers at the workplace, in addition to international efforts in the field like the Universal Quality Management System ISO 9001 and Management environmental ISO 14001 adding to that the increasing global demand for a unified international standard on OSH. In fact, businesses, all over the world, have become aware of the importance of these standards on cost, productivity and competitiveness. In order to answer the global demand, 18001 OHSAS was introduced; it aims to provide a framework for risk control, reduction of injuries and work accidents, and continuous improvement of workplace safety.

### Literature Review

Several studies have tackled the relationship between Occupational Safety and Health programs and human performance from different perspectives. In a paper entitled "The Impact of the Integrated Management of Quality, Environment, and Health on the Human Performance in industries: A case study of Algerian Institutions," Daas Azzeddine tried to demonstrate the impact of the application of the Integrated Management of Quality, Environment, and Health system on human performance in Algerian industries. To collect data, Daas distributed 220 questionnaires to 12 Algerian industries that implemented the Integrated Management of Quality, Environment, and Health system. The findings revealed that:

- There is a statistically significant impact of the application of the aspects of the Integrated Management of Quality, Environment, and Health system (Policy, Planning, Implementation, Operating, Administrative Auditing) on human Performance in Algerian industries.
- There is a statistically significant impact of the implementation of the Integrated Management System for Quality, Environment and Health on human performance on Algerian industries.

The study by Ali Moussa Hanane (2018), entitled “The Role of the Occupational Safety and Health Administration according to OHSAS18001 Specifications in Reducing Work Accidents: A case study of Henkel-Algeria (Chelghoum Laid branch)” aimed to understand the role of the Department of Occupational Safety and Health according to the specifications OHSAS18001 in reducing work accidents at Henkel-Algeria both before and after the application of the specifications. Ali Moussa relied on a descriptive and analytical approach namely structured interviews and a questionnaire checklist in collecting data. In order to analyze data, Ali Moussa relied on Pearson's Correlation Coefficient in order to examine the relationship between work accidents and occupational safety and health management in the company. The findings showed a strong and an inverse relationship between the two variables and thus concluded that the Occupational Safety and Health Administration according to that specification leads to a significant decrease in work accidents in the company under study.

A recent paper entitled “Diagnosis and reality of the occupational health and safety system in the Algerian institution: a Case Study of TREFISOUD El Olama, Setif - Algeria” was published by Bahlouli Sarah in 2022. The study aimed to explain the reality of the Occupational Health and Safety system in Algerian companies. The results demonstrated that the company gives utmost importance to occupational health and safety procedures, as the latter strive to provide a healthy and safe work environment after obtaining the OHSAS18001. They further confirmed the company's dedication to improving the work environment in order to reduce work accidents and occupational diseases. The study concluded that the company's interest in occupational health and safety contribute to its success.

Ait Hammouda and Belasla's study (2014) entitled “Obstacles to the Application of Occupational Health and Safety Standards by builders: an Analytical Study” aimed to understand the prevention and protection measures applied on construction sites to achieve occupational safety and health for workers, diagnosis and treatment of occupational risks and diseases and improve the working environment for workers. The findings highlighted the effective role of industrial security and occupational health to protect human resources from potential physical and psychological diseases in the workplace; they also emphasized the importance of social security, care provision, and treatment of these various diseases; besides the improvement of physical conditions in the workplace and the need to provide workers with protective clothing and other protective tools. Another finding was the company's increasing awareness of workplace hazards under the principle of the right person at the right place by designing training programs, raising the efficiency and effectiveness of workers, developing skills and motivating them.

### **Statement of the problem**

In light of the above, this paper aims to answer the following question: do Occupational Safety and Health standards contribute in improving employee performance in companies? From the main question arise the following sub-questions:

1. What are the definitions of Occupational Safety and Health and their role in companies?
2. To what extent do Occupational Safety and Health measures affect the performance of employees in companies?

## Hypotheses

In order to answer the question, we suggested two main hypotheses:

H0: There is no linear correlation between Occupational Safety and Health and employee performance.

H1: There is a linear correlation between Occupational Safety and Health and employee performance.

## 2. Occupational Safety and Health: An Overview

Occupational Safety and Health (OSH) contribute to the reduction of production costs resulting from the decrease of workplace accidents and injuries as well as the reduction of absenteeism and work interruptions due to a lack of a sound working environment.

### 2.1. Definition of Occupational Safety and Health

Occupational Safety and Health is generally defined as a practice that intends to protect workers from the dangers of their professions, whether physical, physiological or psychological, through the development, implementation and follow-up of an appropriate security and protection program which aims at preventing and reducing the number of accidents and injuries in the workplace (Abbas, 2011, p.119).

#### 2.1.2. Occupational Safety

It is intended to protect employees from any harm and/or damage caused by potential accidents in the workplace such as fractures of all kinds, wounds, burns and suffocation; in other words, safety is concerned with the safety of the worker from accidents and focuses on preventing and avoiding hazards at the workplace (Mohamed, 2015, p 206). In the same line of thought, (Doubakh, 2009) defines it as “safety fences and care precautions to prevent accidents and injuries, which can cause heavy losses because they add burdens to production expenses that must be reduced and lead to labor shortage” (p.23).

The term “industrial safety” or “industrial security” may be used interchangeably to mean “Occupational Safety.” However, these terms suggest that risks are limited to industry only, while it is worth mentioning that there is no risk-free work even within the technological development, whether it is commercial, agricultural, or service business. The use of these terms can be traced to two main reasons:

- 1- The harsh conditions that were prevalent in the industrial sector which have impacted the overall health, social and security conditions of workers.
- 2- Safety and security requirements are more noticeable and prominent in industry than in other sectors (Abu Chikha, 2013, pp.484-485).

Accordingly, Occupational Safety refers to a set of regulations and measures that provide occupational protection for workers, reduce risks, try to prevent accidents, and ensure a sound professional environment that helps workers perform their duties efficiently.

#### 2.1.3. Occupational Health

Occupational Health is a field of health care that primarily focuses on improving the health of workers in different occupations and maintaining it at the highest levels of physical, psychological and social well-being. It is a science that maintains human safety and health; provides safe working environments free from occupational accidents, injuries or diseases (Kafi, 2014, p. 24).

Occupational Health is, thus, intended to protect workers from potential physical and mental illness in the workplace; caused by either the general physical climate, the individual or by the nature of the work itself. These diseases do not occur immediately, but over time, as a result of a continuous exposure to danger. This means that they do not occur instantaneously, but rather cumulatively. In other words, health is defined as “the state of being free from physical and mental illness or injury” (Mohamed, p.200).

The Occupational Health Plan emphasizes the growing importance of policies aimed at improving the health of employees in companies. According to Peretti (2016), the Occupational Health and Safety Plan is responsible for establishing a plan with five objectives:

- 1- establish health services;
- 2- improve the working environment to become conducive to safety and health;
- 3- raise awareness about prevention;
- 4- provide Screening tests to predict and treat the injury in its early stages;
- 5- Support employees in case of difficulties (p.194).

From the previous definitions, we can say that occupational health deals with health in relation to work and production; in other words, it focuses on workers, the nature of the work, and the working environment.

## **2.2. The Objectives of Occupational Safety and Health**

An effective Occupational Safety and Health system attracts skilled and professional workers that lead to job stability and permanence. In other words, a high degree of satisfaction of workers with their work and the general working environment will ultimately reduce employee turnovers. The objectives of Occupational Safety and Health fall under two main axes:

### **✓ Protection of workers:**

Protecting workers from different hazards by:

1. Removing danger from the work area permanently
2. Minimizing risk if it cannot be removed
3. Providing personal protective equipment (PPE) to workers when risk cannot be prevented.

Providing a safe professional environment with:

1. Proper lighting.
2. Adequate humidity and working temperature.
3. Provide safety and psychological tranquility.

### **✓ Protection of the company:**

1. Designing an architectural structure that facilitates the process of occupational safety and health.
2. Preserving materials and machines from damage and loss.

3. Achieving physical and psychological harmony between the worker and his job (Charara, 2016, p.16).

### **2.3. Obstacles to the implementation of the Occupational Safety and Health Management System**

**1. People's culture:** means a shared set of customs, traditions and values that determine and shape the behavior and actions of individuals living within the same community. It plays a substantial role in the success or failure of the Occupational Safety and Health Management System (OSHMS) imposed by the company because each company should institute a culture derived from the culture of its members and the principles and values set by its founders. An individual's culture can be threatening in the way that it affects the overall system like misconduct and unethical behaviors of workers; rejection of workplace behaviors, poor awareness of the importance of wearing various protective equipment (Mustapha, 2016, p. 66).

**2. Work Environment:** The Occupational Safety and Health Management System provides the necessary protection for the factors of production, particularly labor. The work environment consists of a set of variables or direct or indirect factors that affect workers and may have a negative impact on their performance because a safe work environment increases performance and raises workers' productivity. However, it has been noticed that some institutions do not provide a safe work environment, which often leads to work accidents and occupational diseases (Al-Oubaydi, 2013, p. 262).

**3. Occupational Medicine:** The role of the occupational physician in the company is not limited to the traditional role of providing regular health care and treating workers for common diseases. In addition to performing a therapeutic role for workers, the doctor must focus on the preventive aspect, such as periodic medical examinations for workers exposed to occupational hazards; assess the work environment to identify potential hazards that may cause injury or illness and how to prevent them; provide first aid kits, administer first aid for an injury, ensure transport to the hospital, inspect health, food and drink facilities to avoid contamination. In case of absence of Occupational Medicine department within the company, the latter must sign an agreement with the healthcare sector outside the boundaries of the company (Al-Mechakiya, 2010, p.34)

## **3. Definition of employee performance and related concepts**

### **3.1. Definition of employee performance**

Employee performance refers to the manner an individual performs the different activities and tasks and how the workers fulfil their duties during the production processes using

production means and quantitative and qualitative transformational procedures (Mezahouda, 2011, p.86).

Sultan (2003) defines it as the net effect of an individual's efforts that are linked to skills and perceptions of role and tasks, which therefore indicate the degree of achievement, completion of the tasks that make up the individual's job (p. 219). It also helps the company in meeting its strategic clients' expectations and wants.

### 3.2. Concepts related to employee performance

- **Effectiveness:** It is one of the management tools in companies; effectiveness is a criterion that reflects the degree of achievement of the stated goals and the ability to attain the desired results that relate to the strategic objectives of the company, which is the ability of the latter to achieve its strategic goals. Effectiveness is, therefore, linked to achieving organizational goals.
- **Efficiency:** it refers to the ability to perform the required work with little means; an efficient activity is often the least expensive activity, as it is defined as the optimal use of resources at the lowest possible cost without any waste (Mustafa, 2016, p.23).

Effectiveness is seen by some to be broader than efficiency though it includes some of its aspects. It seems clear that efficiency is an integral part of effectiveness, as reaching the stated goals or reducing the difference between the actual and the desired outcome show the similarities between the two concepts. However, we find that they are different if we consider efficiency as a set of standards that must be applied and worked on in order to minimize costs.

### 3.3. Factors Affecting Employee Performance

Since an individual's work behavior is related to the subjective characteristics of the surrounding environment, we can therefore divide the causes of employee performance problems into:

#### 1. Internal factors: they are directly linked to the workers themselves

- Insufficient mental abilities; comprehension and education problems, or self-expression;
- Emotional situations that disrupt performance, such as anxiety;
- Lack of self-determination;
- Poor performance and lack of motivation at work;
- Insufficient energy or inconsistency of an individual's movements, or impaired vision;
- Value conflicts in the workplace, such as the low-value work or the lack of respect for the value of time.

#### 2. External causes: they are related to the surrounding external environment

- Insufficient job-related knowledge or lack of experience;
- Inappropriate physical work environment, affecting production such as noise, cold and extreme heat;
- Inappropriate connections related to worker performance or manager failure to communicate information about expected worker performance;
- Family crises where unusual family situations overlap to prevent proper performance of the job (illness, divorce, the death of a family member) with being absorbed by the demands of the family at the expense of the work requirements.

### 4. The Relationship of Occupational Safety and Health Systems Standards with Performance Improvement

#### **4.1. The Meaning of Performance Improvement**

It is the use of all available resources to improve output and productivity of operations; and to integrate the right technology that optimizes the use of capital. (Al-Chahrani , 2013, p. 42).

The concept of performance improvement is one of the most common concepts for various institutions of all disciplines. Some studies have defined the concept as the way of measuring the outputs of a particular process or procedure with the intention of improving and increasing the overall performance. Performance improvement, in this sense, refers to a form of organizational development which focuses on improving employee performance being the most important and the leading factor of any business. Increasing outputs and improving employee's efficiency lies at the heart of the process of performance improvement because any worker who successfully performs his or her functions impact the fulfilment of the company's strategic objectives (Al-Hayyan, 2015, p. 78).

#### **4.2. Effect of Occupational Safety and Health Systems Standards on Performance Improvement**

The interest of the company's executive management in promoting occupational safety and health activities is of utmost importance. It significantly contributes to strengthening the management of occupational safety and health and turning it into an efficient management capable of preserving employees from work-related accidents and injuries. The latter has a positive impact on the productivity and performance of employees and thus strengthens the competitive position of the organization. Therefore, the existence of an efficient unit for occupational safety and health activities will contribute to the reduction of accidents, injuries and occupational diseases as well as the preservation of workers' safety. Additionally, it reduces the costs of treatment, medical rehabilitation and financial compensation for work injuries which influences positively staff productivity and the overall performance.

It is worth mentioning that in the biggest companies, occupational safety and health units deal with the problems of workers and provide advice and guidance to them. Sometimes they help them solve their personal problems that may affect their productivity. This policy aims to develop manger-employee relationships which leads to a greater understanding of the needs and circumstances of both parties, thus strengthening their relations, increasing cooperation and coordination, deepening the affiliation and goals of the company, which lead to increasing productivity and improving employee performance (Hacene, 2009, pp. 80-81).

The implementation of the Occupational Safety and Health Administration system improves human performance by:

- Reducing the number of work-related injuries through prevention and control of workplace hazards;
- Limiting the risk of major accidents;
- Ensuring a safe and positive work environment by matching workers' expectations;
- Reducing absenteeism;

- Reducing employee turnover;
- Fostering the idea of collaboration between employees and company management to improve productivity;
- Improving work values and achieving high employee satisfaction (Daas, 2019, p.102).

## 5. Econometric Research Method

In this section, we will discuss the methodology used, the sampling, the data collection tools, resources and the findings.

### 5.1. Method

The study is based on the Statistical Analytical Method of the Social Package (SPSS23), which aims to analyze the role of Occupational Safety and Health standards in improving the performance of companies. For the sake of the study, a questionnaire was used to collect data from respondents.

### 5.2. Sample description

The study population consists of workers in the Agricultural Equipment Company in Sidi Bel Abbes. The questionnaire contained 52 questions items divided into three sections: the first section focuses on the personal data of the respondents, from question 01 to 06. The second section deals with “occupational Safety and Health,” consisting of 24 statement items, the third and last section emphasizes data collection on employee performance and is made of 22 statement items. The questionnaire was distributed to 240 workers from different departments and production units. Through the SPSS 23 program, the data was analyzed with the aim of reaching answers to the sub-questions and confirming or infirming the study hypotheses.

### 5.3. Psychometric properties of the research instrument

In order to design the questionnaire and obtain a precise measurement, we subjected the study tool to the test of validity and reliability as follows:

#### 5.3.1. Reliability of the study tool

##### *a. Validity of the internal consistency of the questionnaire*

##### a.1. Validity of statement items of the Second Section

To test the internal consistency of statement items of the second section “occupational Safety and Health,” the correlation coefficients between each item and the total score of the section were calculated as follows:

**Table 1. The Correlation Coefficient between the Statements of the Second Section and the Total Score of the Section**

| N  | Statement | Correlation Coefficient | N  | Statement | Correlation Coefficient | N  | Statement | Correlation Coefficient |
|----|-----------|-------------------------|----|-----------|-------------------------|----|-----------|-------------------------|
| 01 | 0.809**   | 0.000                   | 09 | 0.770**   | 0.000                   | 17 | 0.800**   | 0.000                   |
| 02 | 0.875**   | 0.000                   | 10 | 0.796**   | 0.000                   | 18 | 0.725**   | 0.000                   |

|    |         |       |    |         |       |    |         |       |
|----|---------|-------|----|---------|-------|----|---------|-------|
| 03 | 0.793** | 0.000 | 11 | 0.703** | 0.000 | 19 | 0.855** | 0.000 |
| 04 | 0.642** | 0.000 | 12 | 0.655** | 0.000 | 20 | 0.727** | 0.000 |
| 05 | 0.780** | 0.000 | 13 | 0.669** | 0.000 | 21 | 0.746** | 0.000 |
| 06 | 0.773** | 0.000 | 14 | 0.875** | 0.000 | 22 | 0.736** | 0.000 |
| 07 | 0.790** | 0.000 | 15 | 0.875** | 0.000 | 23 | 0.848** | 0.000 |
| 08 | 0.771** | 0.000 | 16 | 0.611** | 0.000 | 24 | 0.639** | 0.000 |

Source: Prepared by the author based on SPSS outputs

As shown in Table 01, we note that the correlation coefficients ranged from \*\*0.611 to \*\*0.875, and all correlation coefficients of the total score of the section were statistically significant at 0.01, indicating the internal consistency of the statements of Section II, and therefore shows a greater validity.

*a.2. Validity of the internal consistency of the statements in Section Three:*

To test the validity of the internal consistency of the statement of the third section “Occupational performance,” the correlation coefficients between each question and the overall score of the section were calculated as follows:

**Table 2. The Correlation Coefficient between the Statements of the Third Section and the Total Score of the Section**

| N  | Statement      | Correlation Coefficient | N  | Statement      | Correlation Coefficient | N  | Statement      | Correlation Coefficient |
|----|----------------|-------------------------|----|----------------|-------------------------|----|----------------|-------------------------|
| 01 | <b>0.812**</b> | 0.000                   | 09 | <b>0.904**</b> | 0.000                   | 17 | <b>0.935**</b> | 0.000                   |
| 02 | <b>0.638**</b> | 0.000                   | 10 | <b>0.873**</b> | 0.000                   | 18 | <b>0.627**</b> | 0.000                   |
| 03 | <b>0.620**</b> | 0.000                   | 11 | <b>0.918**</b> | 0.000                   | 19 | <b>0.870**</b> | 0.000                   |
| 04 | <b>0.789**</b> | 0.000                   | 12 | <b>0.918**</b> | 0.000                   | 20 | <b>0.935**</b> | 0.000                   |
| 05 | <b>0.812**</b> | 0.000                   | 13 | <b>0.696**</b> | 0.000                   | 21 | <b>0.878**</b> | 0.000                   |
| 06 | <b>0.728**</b> | 0.000                   | 14 | <b>0.830**</b> | 0.000                   | 22 | <b>0.728**</b> | 0.000                   |
| 07 | <b>0.803**</b> | 0.000                   | 15 | <b>0.918**</b> | 0.000                   | -  | -              | -                       |
| 08 | <b>0.935**</b> | 0.000                   | 16 | <b>0.922**</b> | 0.000                   | -  | -              | -                       |

Source: Prepared by the author based on SPSS outputs

The table above shows that the correlation coefficients ranged from  $**0.620$  to  $**0.935$ , and all correlation coefficients of the total score of the section were statistically significant at 0.01, which indicates the internal consistency of the statement of Section Three, and therefore has a significantly high validity.

**-Structural validity:** in order to test the structural validity of the questionnaire, the correlation coefficients between the score of each section and overall score of the questionnaire were calculated as follows:

**Table 3. The Correlation Coefficient between the Score of Each Section and the Total Score of the Questionnaire**

| Section                                     | Correlation Coefficient | Value        |
|---|-------------------------|--------------|
| Section II : Occupational Health and Safety | <b>0.803**</b>          | <b>0.000</b> |
| Section III : Occupational performance      | <b>0.691**</b>          | <b>0.000</b> |

**Source: Prepared by the author based on SPSS outputs**

As shown in Table 03, we note that the correlation coefficient between the second section “Occupational health and safety” and the overall score of the questionnaire is 3, while the correlation coefficient between the third section “Occupational performance” and the total score of the questionnaire is 0.691. We also observe that the correlation coefficients of the two sections with the total score of the questionnaire are statistically significant at a level of 0.01. This indicates an internal consistency between the degree of each section of the questionnaire of and the overall score of the questionnaire. Therefore, the questionnaire has a very high degree of structural validity.

### 5.3.2. Stability Test

In order to confirm the stability of the questionnaire, we relied on the Cronbach’s alpha test to measure stability. Based on the results of this test, the form is modified or accepted as shown in the table below:

**Table 4. The Cronbach’s Alpha Stability Coefficient for each Section of the Questionnaire**

| Section                                     | Number of questions | Cronbach’s alpha |
|---|---------------------|------------------|
| Section II : Occupational Health and Safety | <b>24</b>           | <b>0.966</b>     |
| Section III : Occupational performance)     | <b>22</b>           | <b>0.975</b>     |
| Overall score of the questionnaire          | <b>46</b>           | <b>0.957</b>     |

**Source: Prepared by the author based on SPSS outputs**

As table 04 indicates, the Cronbach's alpha stability coefficient for the second section (Occupational Safety and Health) is 0.966, while the Cronbach's alpha stability coefficient for the third section (occupational performance) is 0.975, and the Cronbach stability coefficient for the whole questionnaire is 0.957. From these results, we conclude that the questionnaire has a high degree of stability.

From the above, it can be said that the study tool has met the psychometric properties of a good test, and therefore meets the purposes of this research.

#### 5.4. Presentation, Analysis of results and Hypotheses Testing

##### 5.4.1. Statistical Analysis of Statement Items

##### -Statistical Analysis of the Occupational Safety and Health Section

**Table 5. Descriptive Statistics of the Occupational Health and Safety Section**

| Statements |   | Degree of Agreement |    |    |    |    | Mean | Std. Deviation | Sig. Level | Decision | Ranking |
|------------|---|---------------------|----|----|----|----|------|----------------|------------|----------|---------|
|            |   | SA                  | A  | N  | D  | SD |      |                |            |          |         |
| 01         | R | 32                  | 51 | 10 | 04 | 03 | 4.05 | 0.92           | 0.000      | High     | 01      |
|            | % | 32                  | 51 | 10 | 04 | 03 |      |                |            |          |         |
| 02         | R | 24                  | 49 | 12 | 09 | 06 | 3.76 | 1.10           | 0.000      | High     | 08      |
|            | % | 24                  | 49 | 12 | 09 | 06 |      |                |            |          |         |
| 03         | R | 22                  | 40 | 09 | 20 | 09 | 3.46 | 1.28           | 0.000      | High     | 15      |
|            | % | 22                  | 40 | 09 | 20 | 09 |      |                |            |          |         |
| 04         | R | 21                  | 32 | 19 | 13 | 15 | 3.31 | 1.34           | 0.000      | Medium   | 20      |
|            | % | 21                  | 32 | 19 | 13 | 15 |      |                |            |          |         |
| 05         | R | 15                  | 40 | 12 | 18 | 15 | 3.22 | 1.32           | 0.000      | Medium   | 24      |
|            | % | 15                  | 40 | 12 | 18 | 15 |      |                |            |          |         |
| 06         | R | 25                  | 41 | 14 | 12 | 08 | 3.63 | 1.21           | 0.000      | High     | 10      |
|            | % | 25                  | 41 | 14 | 12 | 08 |      |                |            |          |         |
| 07         | R | 28                  | 45 | 16 | 06 | 05 | 3.85 | 1.05           | 0.000      | High     | 04      |
|            | % | 28                  | 45 | 16 | 06 | 05 |      |                |            |          |         |
| 08         | R | 29                  | 44 | 00 | 11 | 16 | 3.59 | 1.05           | 0.000      | High     | 12      |
|            | % | 29                  | 44 | 00 | 11 | 16 |      |                |            |          |         |
| 09         | R | 18                  | 43 | 09 | 13 | 17 | 3.32 | 1.36           | 0.000      | Medium   | 19      |
|            | % | 18                  | 43 | 09 | 13 | 17 |      |                |            |          |         |
| 10         | R | 23                  | 41 | 08 | 07 | 21 | 3.38 | 1.45           | 0.000      | Medium   | 18      |
|            | % | 23                  | 41 | 08 | 07 | 21 |      |                |            |          |         |

|       |   |    |    |    |    |    |      |      |       |        |    |
|-------|---|----|----|----|----|----|------|------|-------|--------|----|
| 11    | R | 38 | 34 | 07 | 09 | 12 | 3.77 | 1.36 | 0.000 | High   | 07 |
|       | % | 38 | 34 | 07 | 09 | 12 |      |      |       |        |    |
| 12    | R | 29 | 31 | 14 | 17 | 09 | 3.54 | 1.31 | 0.000 | High   | 13 |
|       | % | 29 | 31 | 14 | 17 | 09 |      |      |       |        |    |
| 13    | R | 27 | 37 | 10 | 13 | 13 | 3.52 | 1.35 | 0.000 | High   | 14 |
|       | % | 27 | 37 | 10 | 13 | 13 |      |      |       |        |    |
| 14    | R | 31 | 39 | 14 | 09 | 07 | 3.78 | 1.18 | 0.000 | High   | 06 |
|       | % | 31 | 39 | 14 | 09 | 07 |      |      |       |        |    |
| 15    | R | 29 | 53 | 04 | 09 | 05 | 3.92 | 1.07 | 0.000 | High   | 02 |
|       | % | 29 | 53 | 04 | 09 | 05 |      |      |       |        |    |
| 16    | R | 26 | 55 | 09 | 03 | 07 | 3.90 | 1.04 | 0.000 | High   | 03 |
|       | % | 26 | 55 | 09 | 03 | 07 |      |      |       |        |    |
| 17    | R | 16 | 39 | 15 | 13 | 17 | 3.24 | 1.34 | 0.000 | Medium | 23 |
|       | % | 16 | 39 | 15 | 13 | 17 |      |      |       |        |    |
| 18    | R | 19 | 27 | 27 | 13 | 14 | 3.24 | 1.29 | 0.000 | Medium | 22 |
|       | % | 19 | 27 | 27 | 13 | 14 |      |      |       |        |    |
| 19    | R | 22 | 42 | 19 | 09 | 08 | 3.61 | 1.16 | 0.000 | High   | 11 |
|       | % | 22 | 42 | 19 | 09 | 08 |      |      |       |        |    |
| 20    | R | 20 | 39 | 17 | 11 | 13 | 3.42 | 1.28 | 0.000 | High   | 17 |
|       | % | 20 | 39 | 17 | 11 | 13 |      |      |       |        |    |
| 21    | R | 17 | 35 | 19 | 15 | 14 | 3.26 | 1.29 | 0.000 | Medium | 21 |
|       | % | 17 | 35 | 19 | 15 | 14 |      |      |       |        |    |
| 22    | R | 27 | 38 | 20 | 09 | 06 | 3.71 | 1.39 | 0.000 | High   | 09 |
|       | % | 27 | 38 | 20 | 09 | 06 |      |      |       |        |    |
| 23    | R | 30 | 45 | 08 | 08 | 09 | 3.79 | 1.21 | 0.000 | High   | 05 |
|       | % | 30 | 45 | 08 | 08 | 09 |      |      |       |        |    |
| 24    | R | 23 | 43 | 03 | 18 | 13 | 3.35 | 1.36 | 0.000 | High   | 16 |
|       | % | 23 | 43 | 03 | 18 | 13 |      |      |       |        |    |
| Total |   |    |    |    |    |    | 3.57 | 0.85 | 0.000 | High   | -  |

Source: Prepared by the author based on SPSS outputs

As shown in Table 05, we note that the mean of the second section “Occupational Safety and Health” is between 4.05 and 3.22, and that the general mean of the statements of the second section was high, reaching 3.57 out of 05. This result indicates that the level of occupational safety and health in the company is high as the latter is a prerequisite for the health and safety of not only employees but property as well. From these results, we have selected the highest and major statements as follows:

**Statement 01:** “There exists a special system for occupational safety and health within your company” ranked first in terms of agreement with an average of 4.05, and a standard deviation of 0.92. The average score was high because it exceeded the neutral mean score of 03.

The researcher attributes this finding to the fact that the company under study has installed a special system respecting the requirements of occupational health that must be present in any company, especially the economic and industrial organization.

**Statement 15:** “You trust the ability of management to provide adequate occupational health and safety for workers” ranked second with a mean of 3.92, and a standard deviation of 1.07, whereas the average response score was high because it exceeded the neutral mean score of 03. The researcher attributes this finding to the fact that there is mutual trust between workers and managers in their ability of meeting the standards of occupational health and safety requirements within the workplace.

**Statement 16:** “The institution imposes OSH measures on employees” came in third place with a mean of 3.90, and a standard deviation of 1.04, while the average degree of approval was high because it exceeded the neutral mean score of 03. The researcher attributes this result to the fact that occupational safety and health conditions are essential in any organizational chart that should be implemented in all companies.

- **Statistical Analysis of Employee Performance**

**Table 6. Descriptive Statistics of Employee Performance Section**

| Statements |   | Degree of agreement |    |    |    |    | Mean | Std. Deviation | Sig.  | Decision  | Ranking |
|------------|---|---------------------|----|----|----|----|------|----------------|-------|-----------|---------|
|            |   | SA                  | A  | N  | D  | SD |      |                |       |           |         |
| 01         | R | 71                  | 21 | 02 | 03 | 03 | 4.54 | 0.91           | 0.000 | Very high | 08      |
|            | % | 71                  | 21 | 02 | 03 | 03 |      |                |       |           |         |
| 02         | R | 72                  | 24 | 00 | 03 | 01 | 4.63 | 0.73           | 0.000 | Very high | 03      |
|            | % | 72                  | 24 | 00 | 03 | 01 |      |                |       |           |         |
| 03         | R | 69                  | 22 | 03 | 06 | 00 | 4.54 | 0.82           | 0.000 | Very high | 09      |
|            | % | 69                  | 22 | 03 | 06 | 00 |      |                |       |           |         |
| 04         | R | 71                  | 22 | 03 | 03 | 01 | 4.59 | 0.77           | 0.000 | Very high | 06      |
|            | % | 71                  | 22 | 03 | 03 | 01 |      |                |       |           |         |
| 05         | R | 69                  | 27 | 00 | 03 | 01 | 4.60 | 0.73           | 0.000 | Very high | 05      |
|            | % | 69                  | 27 | 00 | 03 | 01 |      |                |       |           |         |
| 06         | R | 73                  | 21 | 00 | 06 | 00 | 4.61 | 0.77           | 0.000 | Very high | 04      |
|            | % | 73                  | 21 | 00 | 06 | 00 |      |                |       |           |         |
| 07         | R | 78                  | 16 | 03 | 03 | 00 | 4.69 | 0.67           | 0.000 | Very high | 01      |
|            | % | 78                  | 16 | 03 | 03 | 00 |      |                |       |           |         |
| 08         | R | 63                  | 16 | 09 | 06 | 06 |      | 1.20           |       |           |         |

|              |   |    |    |    |    |    |             |             |              |                  |          |
|--------------|---|----|----|----|----|----|-------------|-------------|--------------|------------------|----------|
|              | % | 63 | 16 | 09 | 06 | 06 | 4.24        |             | 0.000        | Very high        | 19       |
| 09           | R | 65 | 20 | 06 | 03 | 06 | 4.35        | 1.12        | 0.000        | Very high        | 15       |
|              | % | 65 | 20 | 06 | 03 | 06 |             |             |              |                  |          |
| 10           | R | 63 | 28 | 06 | 03 | 00 | 3.38        | 1.45        | 0.000        | Very high        | 10       |
|              | % | 63 | 28 | 06 | 03 | 00 |             |             |              |                  |          |
| 11           | R | 39 | 31 | 09 | 19 | 02 | 3.86        | 1.18        | 0.000        | High             | 22       |
|              | % | 39 | 31 | 09 | 19 | 02 |             |             |              |                  |          |
| 12           | R | 47 | 28 | 09 | 13 | 03 | 4.34        | 1.16        | 0.000        | Very high        | 16       |
|              | % | 47 | 28 | 09 | 13 | 03 |             |             |              |                  |          |
| 13           | R | 58 | 32 | 06 | 04 | 00 | 4.44        | 0.78        | 0.000        | Very high        | 11       |
|              | % | 58 | 32 | 06 | 04 | 00 |             |             |              |                  |          |
| 14           | R | 62 | 24 | 09 | 03 | 02 | 4.41        | 0.92        | 0.000        | Very high        | 12       |
|              | % | 62 | 24 | 09 | 03 | 02 |             |             |              |                  |          |
| 15           | R | 57 | 26 | 08 | 04 | 05 | 4.26        | 1.09        | 0.000        | Very high        | 17       |
|              | % | 57 | 26 | 08 | 04 | 05 |             |             |              |                  |          |
| 16           | R | 58 | 22 | 14 | 02 | 05 | 4.24        | 1.09        | 0.000        | Very high        | 20       |
|              | % | 58 | 22 | 14 | 02 | 05 |             |             |              |                  |          |
| 17           | R | 63 | 24 | 07 | 02 | 04 | 4.40        | 0.99        | 0.000        | Very high        | 13       |
|              | % | 63 | 24 | 07 | 02 | 04 |             |             |              |                  |          |
| 18           | R | 57 | 31 | 09 | 00 | 03 | 4.39        | 0.88        | 0.000        | Very high        | 14       |
|              | % | 57 | 31 | 09 | 00 | 03 |             |             |              |                  |          |
| 19           | R | 45 | 27 | 19 | 04 | 05 | 4.03        | 1.12        | 0.000        | High             | 21       |
|              | % | 45 | 27 | 19 | 04 | 05 |             |             |              |                  |          |
| 20           | R | 53 | 26 | 17 | 02 | 02 | 4.26        | 0.94        | 0.000        | High             | 18       |
|              | % | 53 | 26 | 17 | 02 | 02 |             |             |              |                  |          |
| 21           | R | 66 | 26 | 07 | 01 | 00 | 4.57        | 0.67        | 0.000        | Very high        | 07       |
|              | % | 66 | 26 | 07 | 01 | 00 |             |             |              |                  |          |
| 22           | R | 72 | 22 | 04 | 02 | 00 | 4.64        | 0.65        | 0.000        | Very high        | 02       |
|              | % | 72 | 22 | 04 | 02 | 00 |             |             |              |                  |          |
| <b>Total</b> |   |    |    |    |    |    | <b>4.40</b> | <b>0.64</b> | <b>0.000</b> | <b>Very high</b> | <b>-</b> |

Source: Prepared by the author based on SPSS outputs

As shown in Table 06, it can be seen that the mean of the Third Section “Employee performance” range from 4.69 to 3.86, and that the general mean of the statements of the third section was very high, reaching 4.40 out of 05. This result indicates that the level of employees’ occupational performance is very high. From these results, the statements of this section can be arranged in the following descending order:

**Statement 07:** “I comply with laws and instructions issued by Senior Management” ranked first in the degree of agreement, with a mean of 4.69, and a standard deviation of 6,792. The average response score was very high because it exceeded the neutral mean score of 03. This finding indicates that the respondents abide by the laws and instructions issued by the senior management.

**Statement 22:** “I seek to provide high quality services” came second with a mean of 4.64, and a standard deviation of 0.56. The average score was very high because it exceeded the neutral mean score of 03. This result indicates that the respondents seek to provide high-quality services, which contributes to increasing the overall performance.

**Statement 02:** “I am satisfied with my job while fulfilling my duties” ranked third with a mean of 4.63 and a standard deviation of 0.73. The average response score was very high because it exceeded the neutral mean score of 03 which indicates that the participants are extremely satisfied with their job while performing their tasks which contributes to increased performance.

**Statement 16:** “I feel that my current job matches my abilities and skills” ranked 20th with a mean of 4.24, a standard deviation of 1.09, whereas the average score was very high because it exceeded the neutral mean score of 03. This shows that the respondents acknowledge that their current jobs match their abilities and job skills, which leads to higher performance.

**Statement 19:** “I perform tasks and functions beyond my current job” came in at 21st with a mean of 4.03, a standard deviation of 1.12. The average score was high because it exceeded the neutral mean score of 03, which indicates that most respondents take on tasks outside of the scope of their current job range; this contributes to overcome boredom and routine leading to an increase in productivity.

**Statement 11:** “My working conditions are good and help me accomplish my tasks easily” came in twenty-second place with a mean of 3.86, and a standard deviation of 1.18. The average response score was high because it exceeded the neutral mean score of 03; this result indicates that most respondents agree that working in a positive environment help them perform their tasks efficiently.

### **5.5. Hypothesis Testing**

This study is based on two basic assumptions, formulated as follows:

Null Hypothesis H0: There is no linear relationship between occupational safety and health and employee performance.

Alternative Hypothesis H1: There is a linear relationship between occupational safety and health and worker performance.

In order to test the study hypotheses, we relied on Pearson's correlation Coefficient in order to test the null hypothesis against the alternative hypothesis, and to reveal the relationship between the independent variable (occupational safety and health) and the dependent variable (employee performance) through the following table:

**Table 07. Results of Hypotheses Testing**

| Variable                       | Occupational Performance |         |
|--------------------------------|--------------------------|---------|
| Occupational Health and Safety | Pearson's Correlation    | **0.259 |
|                                | Significance Level       | 0.009   |
|                                | Number of answers        | 100     |

**Source: Prepared by the author based on SPSS outputs**

The table demonstrates that the value of Pearson's correlation coefficient is \*\*0.259, while the significance level is 0.009, which is less than the significance level of 0.01. We, therefore reject the null hypothesis that “there is no linear relationship between occupational safety and health and employee performance” and accept the alternative hypothesis that “there is a linear relationship between occupational health and safety and employee performance.” This means that there is a relationship between occupational safety and health and employee performance, i.e., the growing interest in occupational safety and health standards contributes significantly to further improving the performance of employees.

These findings join the conclusions of Daas Azeddine that claims that there is a statistically significant impact at the level of the implementation of an integrated management system for quality, environment and health on human performance in Algerian industries. Our conclusion is also consistent with the study of Fakir Faysal) that found that the implementation of the integrated management system affects the improvement of overall performance in the economic institution.

Our study results are consistent with the study of Ali Mousa Hanane whose findings resulted in a strong adverse relationship between the two, which led to the conclusion that the Occupational Safety and Health Administration according to this specification will lead to a significant decrease in work accidents at the institution under study.

The results of our study also coincide with the study “Bahlouli Sara” which found that the interest of institutions in occupational health and safety procedures creates a healthy and safe work environment, and that continuous improvement is considered essential for reducing work accidents and occupational diseases, in addition to the adoption of the OHSAS 18001 by institutions leads to controlling the overall improvement of institutions by reducing the costs of work-related accidents.

Finally, our findings are also consistent with the study of “Ait Hammoud Hakima and Belasla Fatiha” which praise the effective role of industrial and occupational health security in protecting human resources from potential physical and psychological diseases at the workplace,

social security, care provision and treatment for these different diseases. It also concluded that occupational health and safety help improve physical conditions in the workplace and provide workers with protective clothing and other protective tools. It further raises awareness on work hazards with the principle of the right person in the right place by designing training programs and raising the efficiency and effectiveness of workers along developing skills and motivating them.

## 6. Conclusion

The success and development of institutions today is not only limited to their economic and competitive goals, but it has become necessary to achieve environmental and social goals. Henceforth, being aware of the importance of OSH in improving employee performance, most companies concentrate on attracting and maintaining human resources while providing the highest degree of occupational safety in the workplace. The interest in developing an integrated management system, ISO has contributed in establishing ISO 14001 environmental management system, ISO 9001 Quality Management System and OHSAS 1800 Occupational Safety and Health Management System in order to facilitate organizations' efforts in achieve their goals as a comprehensive program to ensure a safe, healthy and long life for employees.

Based on the theoretical aspect of the subject and the data obtained from the case study on the role of occupational safety and health standards in improving employee performance, it seems important to emphasize the importance of OSHA in maintaining the elements of production, particularly the human element, which is the pillar of any business.

## References

- Abbas, A.A. (2011). *Human Resources Management (1st ed.)*. Amman: Al-Masirah House for Publishing, Distribution and Printing.p.119
- Abu Chikha, N.A. (2013). *Human Resources Management (2nd ed.)*. Amman: Safaa House for Publishing and Distribution.
- Achi, A. (2002). *The financial performance of institutions: Measurement and Assessment*. [Unpublished Master's Dissertation], University of Biskra.
- Ait Hammouda H. & Belasla F. (2017). *Obstacles to the Application of Occupational Health and Safety Standards by builders: an Analytical Study*. *Journal of Prevention and Ergonomics*, 11(01),pp. 30-62. <https://www.asjp.cerist.dz/en/downArticle/448/11/1/181068>.
- Ali Moussa H. (2018). *The Role of the Occupational Safety and Health Administration in Reducing Work Accidents according to OHSAS18001 Specifications: A case study of Henkel-Algeria (Chelghoum Laid branch)*. *Constantine Journal of Humanities*, B (49), pp.223-280.
- Al-Hayyan, F.M. (2015). *The Role of Empowering Workers in Improving Performance in Public and Private Education Institutions (1st ed)*. Abu Dhabi: Dar Al-Ayyam for Publishing and Distribution.

- Al-Mechakiya, A.A. (2010). *Occupational Safety and Health in Warehouse Management (1st ed.)*. Amman: Safaa House for Publishing and Distribution.
- Al-Oubaydi B.A. (2013). *The Role of the Work Environment in Enhancing Job Satisfaction*. *Journal of Baghdad College of Economics*, No. 36, pp.254-278.
- Bahlouli, S. (2022). *Diagnosing the Reality of the Occupational Health and Safety System in the Algerian Enterprise: Case Study of TREFISOUD El-eulma*. *Journal of the Institute of Economics*, 25 (01), pp.233-250.
- Charara, M.A. (2016). *Occupational Safety and Health on Maintaining a Secure Work Environment*. Egypt: Friedrich-Ebert-Stiftung, Arab Republic of Egypt for Printing.
- Daas, A. (2018). *The Impact of the Implementation of Integrated Management System for Quality, Environment and Health on Human Performance in Industries*. [Doctoral Thesis, University of Batna 1]. <http://dspace.univbatna.dz/bitstream/123456789/427/1/ec%20Daas%20Azeddine.pdf>.
- Doubakh, K. (2009). *The Contribution of industrial security in the prevention of work accident injuries and occupational diseases in the industries*. [Master's Dissertation, University of Constantine]. <http://depot.umc.edu.dz/handle/123456789/934>.
- Hacene, A.A. (2009). *Occupational Safety and Health Management and Employee Productivity*. *Tikrit Journal of Administrative and Economics*, 05 (16), pp.80-81.
- Mezahouda, A. *Performance between Efficiency and Effectiveness: Meaning and Assessment*. *Journal of Human Sciences*, 01 (01), pp.85-100. <https://www.asjp.cerist.dz/en/downArticle/41/1/1/48956>
- Kafi, M.Y. (2014). *Management of Occupational Security and Safety Systems (1st ed.)*. Amman: Arab Community Library for Publishing and Distribution.
- Mohamed, M.H. (2015). *Human Resources Management (1st ed.)*. Amman: Al Moataz House for Publishing and Distribution, Amman.
- Peretti, J.M. (2016). *Management of Human Resources (21st ed.)*. Paris: Vuibert.
- Mohamed Kamel Mustapha, M.K. (2016). *The Culture of Progress: Problem and Solution*. Egypt: Friedrich-Ebert Publishing.
- Sultan, M.S. (2003). *Organizational Behavior*. Alexandria: New University House.
- Yusuf, M. (2016). *Performance Management (1st ed.)*. Amman: Al-Hamid House for Publishing and Distribution.