

## COVID-19 Pandemic, Occupational Health and Safety Practices Industrial Companies (Case of Jordan)

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### Abstract

This study aims to investigate the impact of occupational health and safety practices on the employees performance in joint venture located in the southern industrial development zone in Aqaba. An analytical descriptive sample study approach was used to study three vital joint ventures selected for the study, Aqaba Ports Marine Services Company, Jordan Industrial Ports Company (JIPC) and Jordan Phosphate Mines Co. (JPMC), by designing a study questionnaire to collect data, 338 questionnaires were distributed and 192 answers were retrieved. The data collected was analyzed by the SPSS 20 Program and the results were presented by tables showing the results of the study. Findings revealed that the occupational health and safety variables positively and significantly affect the employee performance, and according to these positive results on employee performance, we recommend the companies to continue and to improve the occupational health and safety practices to ensure better results and a noticeable improvement in employees' performance.

**Keywords:** COVID-19; occupational; health; safety; employee.

### جائحة كورونا وممارسات الصحة والسلامة المهنية في الشركات الصناعية – الأردن

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#### ملخص

تهدف هذه الدراسة إلى التحقيق في تأثير ممارسات الصحة والسلامة المهنية على أداء الموظفين في شركات الائتلاف التي تقع في المنطقة التطويرية الصناعية الجنوبية في العقبة. استخدم منهج دراسة العينة الوصفية التحليلية لدراسة ثلاثة شركات ائتلاف حيوية جرى اختيارها للدراسة، شركة موانئ العقبة للخدمات البحرية، شركة الموانئ الصناعية الأردنية (JIPC) وشركة مناجم الفوسفات الأردنية (JPMC)، من خلال تصميم استبيان دراسة لجمع البيانات وجرى توزيع 338 استبانة؛ حيث جرى استرجاع 192 إجابة. جرى تحليل البيانات التي جُمعت بواسطة برنامج SPSS 20 وعرضت النتائج في جداول تظهر نتائج الدراسة. أظهرت النتائج أن متغيرات الصحة والسلامة المهنية تؤثر على نحو إيجابي وكبير في أداء الموظف، ووفقاً لهذه النتائج الإيجابية على أداء الموظف نوصي الشركات بالاستمرار وتحسين ممارسات الصحة والسلامة المهنية لضمان نتائج أفضل وتحسن ملحوظ في أداء الموظفين.

الكلمات الدالة: كوفيد-19، الصحة، السلامة، المهنية، كورونا.

## 1. Introduction:

The basis of the organizations work is the performance of tasks to make the wheel of production revolves which increases the financial return on the organizations, understanding the concept of employee performance and its importance. This helps organizations set appropriate plans to increase and develop, as the main goals and objectives are achieved through performing tasks no matter how big or small the task is within the organization (Rodrigues & Maria, 2019). Whatever the size or shape of the organization, human resources are the most important department. They represent the way to manage financial capital through the performance of human resources themselves. By increasing employees' performance, we increase the productivity and quality of the organization (Prasetya, 2018).

The business owner who is keen on continuing his work sets up appropriate plans to ensure the continuity of the organization, as it adhere to and include occupational health and safety practices, including exceptional circumstances beyond control, such as weather condition. The employee as a basis for this plan must ensure a decrease in the rate of accidents and thus a decrease in the number of stoppages of working hours, disruption of work and production or absence of workers due to injuries (Fingret & Smith, 2003). Burdorf et al., (2020) clarified that COVID 19 pandemic has affected occupational health, companies and so specialists must take more care of occupational health, especially during this period. It is clear that companies must implement strategies that have succeeded previously such as the spread of the SARS epidemic in facing the current pandemic, personal protective equipment and creating adequate awareness for the employees through training and continuous information update that the company should implement. Companies will also have to deal with the psychological, health and social consequences for employees after the pandemic ends.

The Hashemite Kingdom of Jordan joined International Labor Organization in 1956 and ratified 26 international labor agreements to give attention to in Jordan to create good job opportunities, build the capabilities of companies and create decent work conditions for Jordanians. Occupational health and safety was among the agreements between the Ministry of Labor and the International Labor Organization where the goal was to conduct comprehensive reform, periodic inspection and electronic inspection to ensure the excellent compliance under the labor law, "C081-Labour Inspection Convention, 1947 (No. 81)" (IOL,2017). The silos explosion incident in the old port of Aqaba in 2018 raised many questions about the extent to which occupational health and safety standards are applied and about the need to tighten supervision by the concerned authorities on organizations to enhance the application of occupational health and safety practices to reduce accidents, as the silos explosion incident led to injuries and eight death cases, as accidents of this kind increase the organizations awareness of reviewing occupational health and safety standards and their adherence to them, (Alshatti, 2018).

The Jordanian Labor Law clearly and explicitly confirmed through the acts enacted from act No. 78 to acts No. 96 regarding occupational health and safety and work injuries. Therefore, every organization within the borders of the Hashemite Kingdom of Jordan must abide by occupational health and safety laws according to the nature of its work and location so that the work does not lead to injury or death (Jordanian labor Law, 1996). However, many Jordanian companies are unaware of the importance of occupational health and safety practices. There were not enough Jordanian studies on the occupational health and safety practices and its impact on the employees' performance, awareness and culture of occupational health and safety expressing the quality of implementation and the extent of the organizations' commitment in them.

### 1.1 Problem Statement

In Jordan the accidents and work injuries reported to the Social Security Corporation (SSC) range from 14,000 to 15,000 reports, on average work injuries are every 40 minutes and death cases every two days result from injuries, according to the report of the SSC in 2018 the number of work accidents reached 12508, which resulted into 9,860 work injuries, and the complete recovery rate from injuries was 81.7%, while the death rate resulting from injuries was 1.5%, or approximately 1479 people died due to non-compliance with practices of occupational health and safety (SSC, 2018). Although the organizations comply to occupational health and safety standards, many accidents still occur. Employees' performance is still affected, absenteeism from work is repeated and financial compensation paid by organizations increases. There is no practice of occupational health and safety practices less important than others, all important when it comes to employees.

For instance, according to the annual report for the Arab Potash Company (APC) in Jordan has witnessed a fluctuation in the number of work injuries between 2013 and 2017, In 2015 and 2013. It reached about 0.18 accidents per 200,000 working hours. Then the percentage increased to 0.71 per 200,000 working hours, in 2016 and 0.66 per 200,000 hours of work. These figures are for work injuries which resulted in losing workdays. Whereas in 2014, it decreased to 0.05 (APC, 2017). Several studies were conducted around the world related to practices of occupational health and safety and its relationship with the productivity and performance concept where very few were examined in Jordan within specific sectors. Therefore, this study at this timing, during COVID-19 pandemic, aimed to examine the impact of occupational health and safety practices on employees' performance in joint venture companies with a dangerous work environment and fill this gap of studies.

### **1.2 Significance of study**

In addition to the academic importance of conducting new study in the Aqaba region and filling a new gap in academic articles in occupational health and safety, the researchers also expect that the organizations understand the relationship between the occupational health and safety and employee performance. The findings will be useful for policy makers, practitioners and implementers who could use the results of the study to identify and bridge the gap of occupational health and safety practices in the workplaces to help in improving performance, reducing accidents and work related illness and reduce the harm that occurs from lack and neglect of occupational health and safety practices.

### **1.3 Study Questions**

In order to investigate the main question in this study about the impact of occupational health and safety practices to employees' performance at joint ventures located at Aqaba Industrial Southern area, and based on the study problem above, the current study asked the following questions:

Q1: Does the management commitment affect employee performance of joint ventures located at Aqaba Industrial Southern area?

Q2: Do the occupational health and safety control by audit and inspection affect employees' performance of joint ventures located at Aqaba Industrial Southern area?

Q3: Does the risk assessment affect employees' performance of joint ventures located at Aqaba Industrial Southern area?

Q4: Does the information availability affect employees' performance of joint ventures located at Aqaba Industrial Southern area?

Q5 Do the personal protecting equipment and first aid availability affect employees' performance of joint ventures located at Aqaba Industrial Southern area?

### **1.4 Study Objectives**

This study aims at investigating impact between the occupational health and safety practices and employees' performance of joint ventures located at Aqaba Industrial Southern area which is the main objective of this study. The specific objectives of the study are:

O1: To investigate the impact of management commitment on employees' performance of joint ventures located at Aqaba Industrial Southern area.

O2: To investigate the impact of occupational health and safety control by audit and inspection on employees' performance of joint ventures located at Aqaba Industrial Southern area.

O3: To investigate the impact of risk assessment on employees' performance of joint ventures located at Aqaba Industrial Southern area

O4: To investigate the impact of information availability on employees' performance of joint ventures located at Aqaba Industrial Southern area.

O5: To investigate the impact of personal protecting equipment and first aid availability on employees' performance of joint ventures located at Aqaba Industrial Southern area.

## 2. Literature Review and Previous Studies

### 2.1 Employee Performance

Occupational health and safety legislation enhance investment in employee performance as they protect the employee and the company's property from the dangers surrounding them (Fingret & Smith, 1995). However, the positive relationship between the organizations' performance and the employees' performance highlights the importance of human resources in the organization and how it should enhance the performance of employees not only with the materialistic incentives as many thinks, but by its commitment to maintain health and safety during the workdays (Alli, 2008). Maryjoan (2016) showed that enhancing trust between management and human resources in companies is positively reflected on corporate performance, providing a well-written work instruction, policies and promoting occupational health and safety practices in general certainly affect employees' performance. A positive management generates a healthy, positive work environment and increase the performance of workers so that the performance of companies and their productivity. Ahmad et al., (2016) explained the importance of human resources in light of poor economic and health conditions in some countries to strengthen the basis that takes into account the health and occupational safety in the company located in developing cities, such as lack of regular monitoring, lack of personal protective equipment, poor working environment conditions and many factors that affect the performance of workers by endangering their health and safety. In addition, organizations' success relies on employees' performance as their investment includes investing in the employees themselves. Donohoe (2019) explain that the organizations depend on their success or failure on the performance of their employees, which is a combination of the quality, quantity and effectiveness of the work, the set of behaviors and skills that the employees possess, and the role of management in using the best means and strategies to improve the performance of the employees.

### 2.2 Occupational Health and Safety

Alli (2008) defined the occupational health and safety as *"the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment"* (P VII). Companies are also affected by infectious diseases such as influenza, that is one of the diseases of the upper respiratory system that may spread among employees and has the largest share of the causes of employees' absence from their work. It has a strong impact on productivity and quality of life (Nichol et al., 2005). Katsuro et al., (2010) explained that many organizations may measure the impact of applying occupational health and safety in the work environment through the absence of accidents and injuries, but this does not necessarily mean the optimal implementation of occupational health and safety programs, as accidents are a combination of factors and errors in addition to the risks that together lead to the occurrence of accidents with different consequences, and the performance of a particular task is most likely the interaction of a human element with certain tools. Agwu (2012) also confirmed in his study that occupational health and safety have be a culture among individuals, their principles, customs and values. It has to be individual and collective behavior and not just laws must be adhered to. All tasks cannot be completed with high productivity unless given within a healthy and safe environment. Greepherson (2013) discussed the importance of occupational health and safety practices in the companies. Those practices were management commitment, health and safety inspection, safety rules and policies, risk assessment, educations and training, joining committees, first aid and programs review. He confirmed the need for a professional health and safety specialist in companies to deepen these concepts and practices among employees.

With the increase in industrial activity, production intensity, and interest in the profitable process by organizations, regardless of the working conditions that surround employees, attention increased to occupational health and safety, on the other hand, some organizations struggle in this field and use resources to achieve the highest standards of occupational health and safety and reduce work injuries (Maryjoan et al., 2016).

Ahmad et al., (2017) discussed the aspects of occupational health and safety which include physical, psychological, social, spiritual, and economic health as they all affect the employee. The study showed that some jobs have a harsh nature, which could lead to great body harm, if the necessary practices are not taken to protect all the organization members.

Therefore, the management should take the necessary measures to protect the employees' occupational health and safety.

Gamal et al. (2018) clarified that The concept of occupational health and safety revolves around the state of stability in physical and mental health in addition to the environment surrounding the employee. and they showed that health and safety practices involved in all operations to protect workers against potential hazards in the work environment. He explained that the most important practices are the presence of personal protection equipment, workload, work safety regulations and policies, support and communication from management, and work safety training. He confirmed the need for a health and safety system that takes into account the goals of the organization and the work nature it carries out. Mashwama et al., (2018) discussed some obstacles and hinderances for applying occupational health and safety practices especially for small and medium companies as the high cost was at the forefront that requires a lot of resources, also the lack of a health and safety culture in some societies due to poor education or the spread of poverty so the urgent need for money forces employees to turn a blind eye to the importance of applying occupational health and safety standards. In some industrialized start-up societies such as African societies. The governmental laws on worker rights are not strict enough and are not applied effectively.

Sewu et al., (2019) discussed the continuous pursuit of reducing risks and accidents to improve performance and raise productivity. There are many factors that must be taken into consideration, but unfortunately, they are ignored. This leads to accidents and harm to the employee such as the weakness of health and safety officers, shortage in healthy and equipment, and the employees' disregard for policies and systems, lack of understanding of occupational health, safety manuals, and lack of appropriate training, lack of risk assessment and risk detection devices and many other practices that must be taken in consideration to raise the performance of occupational health and safety. In addition, he indicated that whatever the nature of the organization's work is, attention must be paid to occupational health and safety practices.

### **2.2.1 Management Commitment**

Sull (2003) defined the commitment as *"any action taken in the present that binds an organization to a future course of action"*. Taylor et al., (2004) commitment begins by management and its features become clear through the health and occupational safety plan, as many of its elements begin and end at the managements. Among the elements of the plan are commitment, consultation, communication, risk management, responsibilities, procedures, training, accidents and accident investigation and end with the selection of the employee himself, and upon completion of the occupational health and safety plan which concludes by a set of practices that must be applied in the organization as planned, with paying attention to the size of the organization and the nature of its work. locating safety and health programs and formulating policies are insufficient, but management must adhere and commit to them in each work circumstances.

The commitment of management towards the worker is one of the most important success elements of the relationship between the worker and the work itself and increases the performance of the worker (Alli, 2008). Greeperson, (2013), also discussed that the importance of management commitment where management of all levels first and last responsible of the employees' health and safety. Here management plays an important role in organizing and creating a good occupational health and safety system commensurate with the nature of work, and positive support by management for health and safety practices in addition to apply the regulations policies and procedures in integration with each other motivate workers to do more. He confirmed the need for intermediate management between workers and senior management concerned in occupational health and safety, such as health and safety professionals and specialists.

Caza et al., (2018) explained that management commitment is a way to link the organization's present to its future. The commitment of managers strengthens the identity of the organization through strategy, financing, staff and operations at all levels. Commitment in organizations works to enable and restrict them according to circumstances, ensures the organization's continuity and most importantly commitment makes the organization what it really is, that ultimately turns the manager into a great leader. The employee actually has no responsibility but to adhere to the occupational health and safety policies and procedures adopted in the organization as they have no control over the workplace. The term commitment directs the administration to know its tasks and responsibilities where an accident during the performing a task is considered

a failure in the management system itself (Mansuet et al., 2016). Administration work begins actually regarding health and safety in setting policies and procedures that are in line with the goals and vision of the organization, and the commitment of the management begins by practices and standards of occupational health and safety according to the nature of the work carried out by the organization in addition to setting policies, procedures and laws to be applied by the level of administrative, supervisory, and staff at all times without exception, and this is what the author called “*tough love*” by the management (Reese, 2016). In addition, the management commitment to protect individuals from hazards provide a positive motivation for the worker to perform the work more effectively (Bayram, 2018).

The COVID-19 pandemic has limited the workflow of some companies in the study they came to advice and guidance on how companies should deal and conduct their work during these circumstances, the most important of which was the management should commit to make an alternative strategic plans for any scenario and train employees to adapt to the pandemic and adhere to personal protective equipment in a way that keep the employees healthy and safe and keep the business on the track (Olimov & Khotamov, 2020). Thus, the current study hypothesized that:

H1: Management commitment positively and significantly affects employees' performance.

### 2.2.2 Occupational Health and Safety Control (Audit and Inspection)

Taylor et al., (2004) showed that the inspection and monitoring process is to track the progress of work within the principles and standards previously established by the administration or those that follow the labor law of each country. Here it is worth noting the need to pay attention to the role of government inspectors that the state may appoint to monitor the application of the principles and standards, especially health standards and public safety. Greeperson (2013) indicated that the process of reviewing systems and procedures of occupational health and safety is mandatory for management to follow up the work environment and develop any necessary practices based on any change or updates. This process of review and audit gives employees confidence in the internal system as a continuity system and not just forma. Also the process itself protects workers from potential accidents and help in the prevention and rectification plans for any undesirable elements that may affect the occupational health and safety in the company.

Olouch (2015) suggested a comprehensive review of the procedures, policies and programs related to the occupational health and safety of the company. A committee can be formed to do so, as the management deems appropriate. The inspection is to ensure the application of these policies and procedures within the workplace and must be periodic to maintain the continuity of occupational health and safety at work. However the people who carry out the process of control and inspection should consider the suitability of the current safety policies for the work situation and submit reports in the event of need for amendment or change in light of the rapid development in work environments. If the company wants actual success then it seeks to use external inspectors needed to ensure that a report used in future crisis by management or performance monitors (Nikulin & Nikulina, 2017).

Boland (2019) explain inspection vs audit, both are organized checks to ensure health and safety, but the inspection process focuses on hazards in work environments and the employee's relationship to or hazards that he faces. While the health and safety audit process focus on the procedures that the organization use to detect these hazards and protect employees. Inspections mostly need an internal employee, as for the audit it needs an external party to be far from personal interests. The differences are simple, but both are important for organizations and must be taken into account together to ensure the health and safety of the employee.

The Ministry of Labor was keen to include the necessity and importance of a health and safety supervisor in the organization, according to the need and the law that follow the organization's work, also in the Ministry of Labor manual for the occupational health and safety department which was issued in 2016. Basic activities for occupational health and safety supervisors were included in organizations, including preparing the necessary plans to follow up on work, monitoring and mitigating risks, periodic inspection and audit, inspecting workplaces and equipment that must be provided for personal protection and many others. The Ministry of Labor affirmed that occupational health and safety are the responsibility of the employer, administration, employee, and public health and safety supervisor in every organization. It is a healthy investment

of resources to keep the work and organization sustainable (Ministry of Labor, 2018). Thus, the current study hypothesized that:

H2: Occupational health and safety control (audit and inspection) positively and significantly affect employee's performance.

### **2.2.3 Risk Assessment**

Taylor et al., (2004) in their study presented and developed several definitions that helped us understand the risk assessment as, Hazard "*anything or any condition which has the potential to cause injury or harm to health, or a source of potentially damaging energy*", Risk "*the probability that a hazard will actually result in an accident, considered together with the consequences of the accident*", Risk assessment "*the process of deciding how likely it is that a particular hazard will affect a person in varying circumstances*", Risk control "*the process of selecting and applying measures which will reduce the risk to acceptable levels*". Alli (2008) discussed differences between risk and hazard, risk assessment is an important tool to analyze the work environment and must differentiate between risk and hazard where the first has a very high probability of injury and the second is a low probability of injury and must take appropriate action in both cases. Risk assessment should be done with careful consideration to documents, works and tasks assigned to each employee to ensure that the employee and the property are not injured. The task must be studied and performed along with employee's activity sequence to change or modify in case risks occur, adding tools or eliminate them, and adding personal protection equipment if necessary and record this to review it continuously and ensure its suitability for the continuation of the task. The evaluation can be done in full organization work or for one task according to the need or work nature, (Gilbert, 2008).

Cadieux (2014) explained that the work safety and performance can be balanced with effective programs and practices in the organization. This is a challenge in high-risk work environments and requires high skill in management, leadership and planning. When management allocates sufficient time to conduct a comprehensive assessment of the qualitative and quantitative risks present in the work environment, it works to ensure effective risk management.

The constant pursuit of companies to achieve high performance forced them to adhere to occupational health and safety in order to reduce accidents or injuries that may lead to employee repeated absence or loss of a job site due to lack of sufficient awareness of risk assessment prior tasks performing (Kaynak et al., 2016).

Ahmad et al. (2016) examined one of the important practices in occupational health and safety which is risk assessment where the hazards and risk vary like chemical, biological, mechanical, machinery, illumination, ventilation and noise according to the work environment and the field of industry in which the organizations operate. So, strategies and methods that reduce the impact of these risks or eliminate them on individuals should be developed and evaluated before performing any task. The work tasks are different and may have a multi risks which cause injuries or damage to assets in a company, (Slims, 2019). Moreover, The production comes from the employees' interaction with the tools and equipment and surrounding environment. The production unit can be a result of this interaction either it is done in a healthy and safe way, or done by interaction with the hazards which lead to life loss, serious injuries and property damage, and so the production wheel is disrupted, (Adewale, 2020). Thus, the current study hypothesized that:

H3: Risk assessment positively and significantly affect employee's performance.

### **2.2.4 Information Availability**

One of the important aspects in providing information to the employee is training to improve his effectiveness, efficiency and performance. The employee's training must include the practical or technical side, which is important to reduce accidents that occur from insufficient knowledge or experience to deal with tools or machines. It must add to life skills training that allow the employee to distinguish between what is important to his health and safety and what is harmful. Stress management training is also very important to mental health and management roll. In addition, appropriate training develops appropriate policies and procedures for tasks in a manner that commensurate with what the employee was trained for (Fingret & Smith, 1995). Sharing information can increase trust between employers, employees and the administrative system. Transparency

of information improves the performance of the team and helps in solving problems at work, using many methods and means to provide and share information even if it is only a plan such as board plans contribute greatly to the success of the work. The process of sharing information is not easy and simple but of high-value, and the quality of business success stems from the quality of the available information. In addition, the training also provides the employees with sufficient information about the nature of the work and the risks surrounding it and provides sufficient knowledge to ensure the health and safety of the worker and how to avoid risks or deal with its existence (Alli, 2008; Olouch, 2015).

Canedo et al. (2017) found that the exchange of false or unreliable or incomplete information can cost the organization a lot. It can lead to poor communication, maybe unclear instructions, unclear expectations, lack of cooperation and lack of trust within the team. This may lead in many cases to poor decisions in organizations. Thus, the current study hypothesized that:

H4: Information availability positively and significantly affect employee's performance.

### **2.2.5 Personal Protection Equipment and First Aid Availability**

A complete plan must be made of them that includes providing kits and appropriate training for employees, renew health and occupational safety procedures in relation with the development of first aid procedures, training in accident reporting to enhance the idea of using first aid in the workplace. (Fingret & Smith, 1995). Olouch (2015) considered that protection is the most important to ensure occupational health and safety, as it is considered essential in this concept. Personal protective equipment is the first physical barrier between the person and the potential hazard. It isolates many of the dangers of a work environment from the person. Providing occupational health and safety requirements and applying their practices. Reducing the chances of accidents does not eliminate the need to provide first aid kits in the workplace. It is one of the practices that must be applied. Ahmad et al., (2016) said that many workers in the absence of control do not use personal protective equipment because they are disturbed by the performing of tasks while wearing them. In addition to the absence of the provision of equipment for first aid in the workplace, that negatively affects the health of individuals and expose them to risks.

Gilbert, (2018) indicated that occupational health and safety regulations depend on work nature. They require the employer to provide personal protective equipment and first aid kit, as they are precautionary measures to reduce the harm of hazards if any. It is a way to reduce the severity of work injury or save lives, the work nature, environment surrounding the employee, tools and materials. The risks which he is exposed to are the only ones that determine the nature and shape of protective equipment's that must be provided to the employee taking into account its availability in a size that suits all employee with continuous availability whenever the need arises. In addition to that, the previous points specify the type and quantity that must be provided from medicines and medical care tools in the first aid kit, along with training a number of employees to provide health care services. Organization always should observe, and remove the dangers first then develop a plan to confront them with personal protective and first aid equipment.

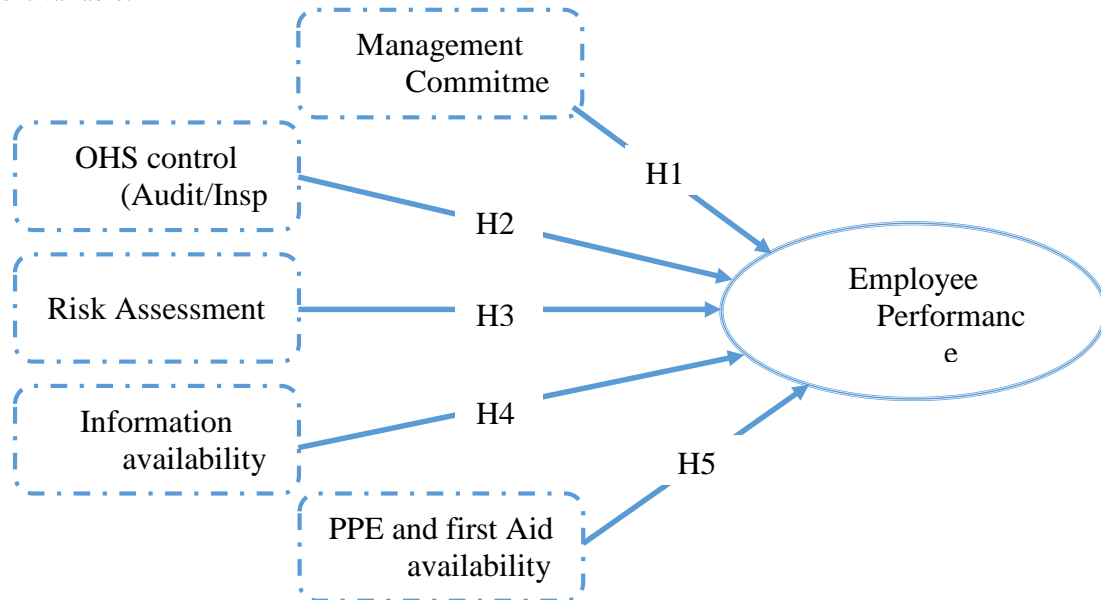
One of the most important dangers that require wearing personal protective equipment is the spread of infectious respiratory diseases, as the COVID-19 pandemic, where employees are forced to wear personal protective equipment such as face mask, face shields and medical gloves, in addition to the use of sterilizers. These procedures may be required for some employees from the nature of work environments, but for others it made it difficult to work under this type of personal protection equipment (Houghton et al., 2020). Thus, the current study hypothesized that:

H5: Personal protection equipment's and first aid availability positively and significantly affect employees' performance.



### 2.3 Study Model and hypotheses development

Based on the all discussion on the previous studies above, the model of this study was developed as shown in figure (1). It includes five independent variables of occupational health and safety, which have an impact on employee performance as a dependent variable:



**Figure (1): Study conceptual model**

## 3. Study Methodology

### 3.1 Study Design

This study uses the descriptive quantitative study method. It was conducted by collecting primary data to answer study questions and achieve the study objectives. The quantitative study seeks the causes and facts from external perspectives, or from the employee perspective and this type of study will help generalize, expand, or reflect the results on other situations (Yin, 1994).

### 3.2 Data Collection Instrument

Both primary and secondary data collected by the researchers, secondary data collected from several resources as websites, previous studies, books, articles and sample unit companies annual reports, due the study used quantitative data collection methods primary data was collected mainly by using questionnaires; A Five Point Likert Scale was used to determine the degree to occupational safety and health practices effect on employees performance, the respondents were required to fill the questionnaires at their own convenient time to avoid any misleading information or inappropriate situations during working hours; drop and pick method was used to administer the questionnaires and the response was picked within one month due the COVID-19 and new government regulations which determine the percentage of employee each shift.

#### 3.2.1 Questionnaire design

The questionnaire consists of five pages with following parts; first part consists of a cover letter clarifying the title of the study, purpose of the questionnaire and a statement guaranteeing confidentiality of the respondents, researchers thanks the respondents for their contribution. second part consist of part one which is consists of six questions about the respondents' demographic profile; such as gender, age, marital status, occupation level, experience, and education. Part two consists also of two parts: the first one consists of the factors related to occupational health and safety practices, five questions were used for each of the variables. and the second one consists of factors related to the employees' performance, and seven questions

were used to measure it. A previous studies were adopted to come up with questions that take into account the existing conditions and work environment, and they were improved and formulated, and the referees' comments were taken to come up with an appropriate study tool.

### 3.2.2 Measurements of Variables

As explained previously, the questionnaire is a tool to collect primary data to study variables, the survey field defined as a non-experimental method to examine the causal impact of dependent independent on variables (Bhattacharjee, 2012), the questionnaire adopted from different studies with high degree of validity and reliability.

Also Validity and reliability test results show that each item of the variable shows valid and reliable so that it is feasible as a measuring instrument of the variables under study.

### 3.3 Procedures

To conduct the study, the researchers had to seek authorization for collecting the data. A letter was issued by Mu'tah University to facilitate getting data. In addition, the researchers contacted all private industrial companies by phone to obtain a permit to enter the companies campus within the occupational health and safety standards to collect data from employees and determine the population number as a whole to determine the sample percentage. Because of the spread of the Corona virus (COVID-19), all data were taken in a period of about a month, due to insufficient numbers of employees, as companies were operating within the minimum employment level to avoid social contact between employees. It was supposed that the researcher distributes the questionnaires from the 20<sup>th</sup>. of March, but it was delayed until the end of April because of the comprehensive block that was imposed on the Hashemite Kingdom of Jordan and the questionnaires were retrieved from May 21 to May 30 in succession from companies.

### 3.4 Population and Sampling

Population of this study is the joint venture in Aqaba special economic zone/ Aqaba city, which is located at the south of Aqaba near the Saudi border which also contain the new south ports. These companies include industrial companies, service companies and operating companies as shown in table (1). The Aqaba Special Economic Zone Area (ASEZA) includes five major development areas; the most important area is the southern region, which is located at the southern end of Aqaba, near the Saudi border. Many of the companies and vital projects are located there include the Phosphate and Potash Companies, the new main port, lands, infrastructure. Logistic services were provided by the Jordanian government to encourage investment to raise the Jordanian economy.

**Table (1): Study population**

| NO  | Company Name                             | Employee          | Sample |
|-----|--|-------------------|--------|
| 1.  | Aqaba Port Marine Services Company       | 204               | 204    |
| 2.  | Jordan Phosphate Mines Co JPMC - Aqaba   | 770               | 770    |
| 3.  | Arab Potash Company – Aqaba              | 54                |        |
| 4.  | Jordan Industrial ports company (JIPC)   | 130               | 130    |
| 5.  | Nippon Jordanian Fertilizer Company      | 70                |        |
| 6.  | Kemapco Company                          | 247               |        |
| 7.  | Indian Jordanian Company                 | 14                |        |
| 8.  | The Jordanian Indian Fertilizers Company | 23                |        |
| 9.  | Sheikh Sabah Port                        | 14                |        |
| 10. | Aqaba ports Company ACT                  | 993               |        |
| 11. | Al fajer - Egyptian gas                  | 35                |        |
| 12. | Aqaba logistic –ALV                      | 67                |        |
| 13. | Solvochem Holland B. V. Co.              | 75                |        |
|     |  | N= Total No. 2696 |        |

### 3.4.1 Sample Unit

From thirteen companies, this study selected three companies randomly which are (*Aqaba Port Marine Services Company, Jordan Phosphate Mines Co JPMC – Aqaba* and *Jordan Industrial ports company (JIPC)*). Random sampling technique was used to select the number of all employees in the sample unit (N). They were collected randomly. Sample (S) was taken to distribute the questionnaires to them, where  $N = 2696$ ,  $S = 338$ , where N is the population size. It is shown in Table (3.1), and S= is sample size according to (Sekaran, 2003). The questionnaires were distributed according to the number of employees' percentage in each company, by calculating the ratio of each company from the total sample. The numbers are for Jordan Industrial ports company (JIPC). Forty-one questionnaires were distributed randomly. Forty-one were retrieved, and for Aqaba Port Marine Services Company 61 questionnaires were distributed randomly, 61 retrieved, and Jordan Phosphate Mines Co JPMC – Aqaba, 236 questionnaires were distributed randomly, and 90 retrieved. The total number of questionnaires retrieved is 192.

## 4. Data Analysis and Findings

### 4.1 Outliers test

Detecting the outliers in the data: this was done by using the Standardized Residuals Statistic indicator, so that the values are considered extreme if its absolute value is greater than (3), and Table (2) shows the results of this indicator.

**Table (2): Results of the Standardized Residuals Statistic indicator for detecting outliers in the data**

| Case Number | Std. Residual | Employees' Performance* | Predicted Value | Residual |
|-------------|---------------|-------------------------|-----------------|----------|
| 143         | -3.362        | 2.29                    | 3.801           | -1.515   |
| 181         | -4.357        | 2.14                    | 4.106           | -1.963   |
| 185         | -3.657        | 2.00                    | 3.648           | -1.648   |

\*Dependent Variable: Employees' Performance

It is noted in table (2) that there are three cases (responses of individuals) that should be deleted from the final data analysis as they are from the outliers and their numbers are (143,181,185), depending on the values of the absolute value of the Standardized Residuals Statistic which exceeded the acceptable maximum of (3), and thus the sample size subject to statistical analysis (189) became after removing the three cases.

### 4.2 Respondents' Profile

The study sample consisted of (189) questionnaires out of (192) questionnaires retrieved from the sample. They were randomly selected from the study population by randomly polling the names of sample. Table (3) shows the descriptive statistics of the personal variables.

**Table (3): Descriptive statistics of the personal variables**

| Variable                          | Group               | Frequency | Percentage |
|-----------------------------------|---------------------|-----------|------------|
| Gender                            | Female              | 14        | 7.4        |
|                                   | Male                | 175       | 92.6       |
| Highest educational qualification | high school         | 72        | 38.1       |
|                                   | Diploma             | 33        | 17.5       |
|                                   | Bachelor's Degree   | 72        | 38.1       |
|                                   | Postgraduate Degree | 12        | 6.3        |
| Work experience                   | 1-5 years           | 17        | 9.0        |
|                                   | 6-10 years          | 35        | 18.5       |
|                                   | 11-20 years         | 75        | 39.7       |
|                                   | 21 and above        | 62        | 32.8       |

| Variable                 | Group          | Frequency  | Percentage   |
|--------------------------|----------------|------------|--------------|
| Age group                | 18-30 years    | 32         | 16.9         |
|                          | 31 - 40        | 65         | 34.4         |
|                          | 41-50          | 62         | 32.8         |
|                          | 51- and above  | 30         | 15.9         |
| Material status          | Single         | 33         | 17.5         |
|                          | Married        | 151        | 79.9         |
|                          | Divorced       | 4          | 2.1          |
|                          | Widowed        | 1          | .5           |
| In what category you are | Top Management | 13         | 6.9          |
|                          | Middle Level   | 29         | 15.3         |
|                          | Senior Level   | 56         | 29.6         |
|                          | Other          | 91         | 48.1         |
| <b>Total</b>             |                | <b>189</b> | <b>100.0</b> |

### 4.3 Reliability

To make sure the reliability of the tool, we use the Cronbach's Alpha equation to sample the original study, so as to know the stability of the internal consistency for each field of the study. Table (4) explains that:

**Table (4): The values of reliability coefficient by Cronbach's alpha**

| Factors   | Cronbach's alpha |
|---|------------------|
| Employees' Performance                                      | 0.908            |
| Management Commitment                                       | 0.857            |
| Occupational Health and Safety Control (Audit & Inspection) | 0.886            |
| Risk Assessment   | 0.883            |
| Information Availability                                    | 0.846            |
| Personal Protecting Equipment and First Aid Availability    | 0.822            |

In Table (4) the reliability coefficient for the items strong loading are shown, where the range of values (0.822- 0.908). They are sufficient values.

### 4.4 Validity of the questionnaires

It was checked based on the Corrected Item-Total Correlation between each one of the items with the correspondent domain and with the instrument. It is a must that the Corrected Item-Total Correlation values won't be less than 0.30. The results found for the values of all the items tested were more than the recommended value.

### 4.5 Normality

To test the normal distribution in this study, the Kolmogorov-Smirnov test was used. It is one of the most popular types of tests used in this field. Table (5) shows this:

**Table (5): The result for Kolmogorov-Smirnov test**

| Domain  | Statistics | Sig*   |
|---|------------|--------|
| Employees' Performance                                      | 0.977      | 0.152* |
| Management Commitment                                       | 0.962      | 0.146* |
| Occupational Health and Safety Control (Audit & Inspection) | 0.912      | 0.158* |
| Risk Assessment   | 0.943      | 0.123* |
| Information Availability                                    | 0.954      | 0.121* |
| Personal Protecting Equipment and First Aid Availability    | 0.987      | 0.158* |

\* Statistically significant at the level of statistical significance ( $\alpha \geq 0.05$ )

It is noted from Table (5), the values of the statistical significance of the Kolmogorov-Smirnov test were greater than ( $\alpha \leq 0.05$ ), which indicates that the data follow the normal distribution and there is no outliers on the model within the sample.

#### 4.6 Linear correlation test (Multicollinearity)

Linear correlation test was used to ensure that there is no high correlation between independent variables, based on the VIF test and the Tolerance test for each of the independent variables. The variables of the model must be independent. To ensure that purpose, we use these tests, which are considered one of the methods used to Multicollinearity of the problem of linear multiple regression, knowing that must not exceed the coefficient of (VIF) of the value (10), and the value of the test of tolerance variance must be greater than (0.05).

**Table (6): The results for the tests: VIF and Tolerance**

| Independent variable  | VIF   | Tolerance |
|---|-------|-----------|
| Management Commitment                                       | 1.783 | .561      |
| Occupational Health and Safety Control (Audit & Inspection) | 1.755 | .570      |
| Risk Assessment   | 2.264 | .442      |
| Information Availability                                    | 2.019 | .495      |
| Personal Protecting Equipment and First Aid Availability    | 2.443 | .409      |

As shown in table (6), the values of the variance inflation coefficient test (VIF) for all independent variables are less than (10), where these values ranged between (1.755-2.443). The value of the test tolerance coefficient of variance (Tolerance) for all independent variables is greater than (0.05) where its value ranged between (0.409-0.570) and therefore it can be said that there is no problem of high correlation between independent variables, this enhances the possibility of using them in the model.

#### 4.7 Hypothesis Testing

There are many steps that begin with analyzing the primary data collected previously, starting with data entry and choosing the appropriate strategy for the analysis (Sekaran, 2003). Data collected was analyzed through two main tests. The data screening tests which include outlier, normality, correlation, reliability and (face, content, convergent) validity, and hypotheses test by both simple and multiple regression analysis to establish the effects of occupational health and safety practices on employee performance, using Statistical Package for Social Sciences (SPSS- version 20). Presentation of the findings will be done in tables. And the results according to the study hypothesis are as follows:

##### 4.7.1 Occupational Health and Safety

The main hypothesis: The Impact of Occupational Health and Safety Practices positively and significantly impact on employees' performance. To test this hypothesis, we applied the multiple regressions between the independent variable (management commitment, occupational health and safety control (audit & inspection), risk assessment, information availability, personal protecting equipment and first aid availability) and dependent variable (employee performance), as shown below:

**Table (7): Results of Multiple Regressions**

| F      | Regression coefficients                                     |         |            |       |       |
|--------|---|---------|------------|-------|-------|
|        | Domain  | $\beta$ | Std. Error | T     | Sig*  |
| 134.82 | Management Commitment                                       | .156    | .045       | 3.420 | .001* |
|        | Occupational Health and Safety Control (Audit & Inspection) | .214    | .042       | 4.721 | .000* |
|        | Risk Assessment   | .302    | .050       | 5.869 | .000* |
|        | Information Availability                                    | .247    | .054       | 5.089 | .000* |
|        | Personal Protecting Equipment and First Aid Availability    | .163    | .064       | 3.052 | .003* |

\* Statistically significant at the level of statistical significance ( $\alpha \leq 0.05$ )

Table (7) shows value ( $F = 134.82$ ) statistically significant ( $0.00$ ) is less than the level of statistical significance ( $\alpha \leq 0.05$ ). Thus, the multiple linear regression model is suitable for measuring the causal relationship between the independent variable (management commitment, occupational health and safety control (audit & inspection), risk assessment, information availability, personal protecting equipment and first aid availability) and the dependent variable (employee performance). A summary of the model analysis of multiple linear regressions is prepared. There is a statistical significance for the coefficient of multiple linear regression equation related to the independent variable (management commitment, occupational health and safety control (audit & inspection), risk assessment, information availability, personal protecting equipment and first aid availability), where the values are ( $T = 3.42, 4.721, 5.869, 5.089, 3.052$ ) respectively, which shows the impact of the effect of (management commitment, occupational health and safety control (audit & inspection), risk assessment, information availability, personal protecting equipment and first aid availability) on employees' performance. Thus, there are significant significance for the coefficient of multiple linear regression equation, which were ( $0.156, 0.214, 0.302, 0.247, 0.163$ ) respectively, have a positive effect.

#### 4.7.1.1 Management Commitment

H1: Management commitment positively and significantly impact on employees' performance.

To test this hypothesis, we used the Simple linear regression analysis as shown below:

**Table (8): The results for simple linear regression**

| F       | Sig*         | Regression coefficients |         |            |        |       |
|---------|--------------|-------------------------|---------|------------|--------|-------|
|         |              | Domain                  | $\beta$ | Std. Error | T      | Sig*  |
| 149.665 | <b>0.00*</b> | Management commitment   | 0.667   | 0.054      | 12.234 | .000* |

\* Statistically significant at the level of statistical significance ( $\alpha \leq 0.05$ )

Table (8) shows value ( $F = 149.665$ ) is statistically significant and it is ( $0.00$ ) and less than the level of statistical significance ( $\alpha \leq 0.05$ ). Thus, a simple linear regression model is suitable for measuring the causal relationship between the independent variable (management commitment) and the dependent variable (employee performance). There is a statistical significance for the coefficient of simple linear regression equation related to the independent variable (management commitment), where the value ( $T = 12.234$ ), which shows the impact of the effect of (management commitment) on employee performance. Therefore, there is statistical significance for the coefficient of simple linear regression equation, which was ( $0.667$ ). It has a positive effect.

#### 4.7.1.2 Occupational Health and Safety Control (Audit and Inspection)

H2: Occupational health and safety control (audit and inspection) positively and significantly impact on employees' performance.

To test this hypothesis, we used the Simple linear regression analysis as shown below:

**Table (9): The results for simple linear regression**

| F       | Sig*         | Regression coefficients                                     |         |            |        |       |
|---------|--------------|---|---------|------------|--------|-------|
|         |              | Domain  | $\beta$ | Std. Error | T      | Sig*  |
| 173.435 | <b>0.00*</b> | Occupational Health and Safety Control (Audit & Inspection) | 0.694   | 0.049      | 13.169 | .000* |

\* Statistically significant at the level of statistical significance ( $\alpha \leq 0.05$ )

Table (9) shows value ( $F = 173.435$ ) is statistically significant ( $0.00$ ). It is less than the level of statistical significance ( $\alpha \leq 0.05$ ). Therefore, a simple linear regression model is suitable for measuring the causal relationship between the independent variable (occupational health and safety control (audit & inspection)) and the dependent variable (employee performance). There is a statistical significance for the coefficient of simple linear regression equation related to the independent variable (occupational health and safety control (audit & inspection)), where the value ( $T = 13.169$ ). It shows the impact of the effect of (occupational health and safety control (audit & inspection)) on employee performance. Thus, there is statistical

significance for the coefficient of simple linear regression equation, which was (0.694). It has a positive effect.

#### 4.7.1.3 Risk Assessment

H3: Risk assessment positively and significantly impact on employees' performance.

To test this hypothesis, we used the Simple linear regression analysis as shown below:

**Table (10): The results for simple linear regression**

| F       | Sig*         | Regression coefficients |         |            |        |       |
|---------|--------------|-------------------------|---------|------------|--------|-------|
|         |              | Domain                  | $\beta$ | Std. Error | T      | Sig*  |
| 273.036 | <b>0.00*</b> | Risk Assessment         | 0.77    | 0.045      | 16.524 | .000* |

\* Statistically significant at the level of statistical significance ( $\alpha \leq 0.05$ )

Table (10) shows value (F = 273.036). It is statistically significant (0.00) is less than the level of statistical significance ( $\alpha \leq 0.05$ ). Thus, a simple linear regression model is suitable for measuring the causal relationship between the independent variable (risk assessment) and the dependent variable (employee performance). There is a statistical significance for the coefficient of simple linear regression equation related to the independent variable (risk assessment), where the value (T = 16.524), which shows the impact of the effect of (risk assessment) on employee performance. Thus, there is significant significance for the coefficient of simple linear regression equation, which was (0.77). It has a positive effect.

#### 4.7.1.4 Information Availability

H4: Information availability positively and significantly impact on employees' performance.

To test this hypothesis, we used the Simple linear regression analysis as shown below:

**Table (11): The results for simple linear regression**

| F       | Sig*         | Regression coefficients  |         |            |        |       |
|---------|--------------|--------------------------|---------|------------|--------|-------|
|         |              | Domain                   | $\beta$ | Std. Error | T      | Sig*  |
| 218.496 | <b>0.00*</b> | Information availability | 0.73    | 0.055      | 14.782 | .000* |

\* Statistically significant at the level of statistical significance ( $\alpha \leq 0.05$ )

Table (11) shows value (F = 218.496). It is statistically significant (0.00). It is less than the level of statistical significance ( $\alpha \leq 0.05$ ). Thus, a simple linear regression model is suitable for measuring the causal relationship between the independent variable (information availability) and the dependent variable (employee performance). There is a statistical significance for the coefficient of simple linear regression equation related to the independent variable (information availability), where the value (T = 14.782). It shows the impact of the variable (information availability) on employee performance. Thus, there is statistical significance for the coefficient of simple linear regression equation, which was (0.73). It has a positive effect.

#### 4.7.1.5 Personal Protecting Equipment's and First Aid Availability

H5: Personal protecting equipment's & first aid availability positively and significantly impact on employees' performance.

To test this hypothesis, we used the Simple linear regression analysis as shown below:

**Table (12): The results for simple linear regression**

| F       | Sig*         | Regression coefficients                                  |         |            |        |       |
|---------|--------------|--|---------|------------|--------|-------|
|         |              | Domain   | $\beta$ | Std. Error | T      | Sig*  |
| 226.853 | <b>0.00*</b> | Personal Protecting Equipment's & first aid availability | 0.74    | 0.059      | 15.062 | .000* |

\* Statistically significant at the level of statistical significance ( $\alpha \leq 0.05$ )

Table (12) shows value ( $F = 226.853$ ). It is statistically significant ( $0.00$ ). It is less than the level of statistical significance ( $\alpha \leq 0.05$ ). Thus, a simple linear regression model is suitable for measuring the causal relationship between the independent variable (personal protecting equipment's & first aid availability) and the dependent variable (employee performance). There is a statistical significance for the coefficient of simple linear regression equation related to the independent variable (personal protecting equipment's & first aid availability), where the value ( $T = 15.062$ ). It shows the impact of the variable of (personal protecting equipment's & first aid availability) on employee performance. Thus, there is statistical significance for the coefficient of simple linear regression equation, which was ( $0.74$ ). It has a positive effect.

## 5. Result Discussion and Conclusion

### 5.1 Result Discussion

The aim of the study was to investigate the impact of occupational health and safety practices on the performance of workers in joint venture in southern Aqaba. The results indicate that the majority of respondents were males. They were 92.6% compared to 7.4% of females due to the nature of the work of the companies that were chosen for the sample as they are industrial and service companies working on mechanisms and production lines in which females work is limited to administrative jobs. This means that the study is not affected by gender inequality. The results of the study revealed a high percentage of respondents hold degrees. This is a good indication that they are able to answer the questionnaires and have sufficient knowledge of occupational health and safety practices. The results showed that most of the respondents' experience in their field of work 11-20 years of work experience with a rate of 39.7%. This is a good indication, as respondents have enough experience and can provide reliable information of the topic. The results revealed that the average age of employees reached 34.4% in favor of the option 31-40 years. This is a good indication that the older age may have a greater impact on occupational risks and hazards and the possibility of exposure to more diseases. Also 79.9% of the respondents were married, and this is an expected rate in our society. This could affect the employees' interest in occupational health and safety practices because they are related to families. The study also indicates that all levels participated in the study and the results showed that the highest percentage was for (other) options at 48.1%; because of the difficulty in detailing these jobs within the options. Exceptional jobs that are not considered administrative or normal are considered as employees of the Aqaba Port Company for Marine Services where they hold ranks by the Ranking Maritime System, such as the position of Pilots, Captain, Marine Engineer, and Vessels traffics coordinators, in addition to having specialist and expert jobs in other companies that do not fall within other options such as machine technicians. The results of the main hypothesis analysis through studying the effect of independent variables (management commitment, occupational health and safety control (audit & inspection), risk assessment, information availability, personal protecting equipment and first aid availability) on the dependent variable (employee performance) in the multiple regression test showed that there is a positive effect between the independent and the dependent variables where the result of  $R (.88)$  and the result of Adjusted  $R$  Square (.78) appeared as it explains the effect value by 78% from the dependent on independent variable. Joint venture companies are generally concerned with the profit and commercial side of their activity and this is the main reason that prompted to conclude joint contracts, but these companies are under continuous pressure of inspection and government oversight because of their significant impact on the national economy. The results of the study confirm the awareness of these companies and their belief that employee performance is a prerequisite for the cycle of the production wheel and the health and safety of the employees is a condition for continuing this performance. Companies are also aware of the consequences of accidents and weak occupational health and safety practices as finance and time waste the reputation. Cost and impact are much more than commitment to occupational health and safety practices for the main resource it has, which it is the human resource. This positive impact may help us in facing the COVID- 19 pandemic, as the tendency to adhere to occupational health and safety standards exists, and it is one of the basics to reduce this pandemic.

The results of the study are consistent with the study of (Maryjoan, 2016) where the results of his study showed that the higher the level of occupational health and safety, the performance of workers increases significantly, and (Ahmad et al., 2017) study results showed that there is a noticeable positive impact of occupational health and safety practices on job



satisfaction and thus the job satisfaction increases the performance of workers. In the study of (Gamal et al., 2018), his results showed that occupational health and safety practices have a positive and direct impact on the performance of workers and have an indirect impact through the intermediate variable job satisfaction and in both cases the effect is clear and positive.

#### **5.1.1 Management Commitment**

By analyzing the linear regression of the independent variable (management's commitment), with the assumption that other factors are constant, this independent factor has a positive and significant impact on the dependent variable (employee performance), where the result of R (0.667) and B (0.667) has emerged. Therefore, through the (Adjusted R<sup>2</sup>) value that the independent variable is able to explain (44.2%) of the apparent change in the dependent variable. This is an excellent percentage that shows the positive effect of the test results confirm the management awareness and adherence to implement the occupational health and safety practices. The results confirmed practically that the health and safety of the employees can start from the management itself. Employees' performance is the way to continue production. As the management only has the ability to activate policies and procedures and activate occupational health and safety practices that pertain to the nature of the company's work. he results, the employee's awareness appears in this role of management.

The results of this study confirmed by (Bayram, 2018) showed that there is a clear, direct and positive impact of the management commitment to occupational health and safety practices on job satisfaction. The study of (Ahmad et al., 2017) showed that job satisfaction affects positively the workers' performance. Therefore, there is a positive relationship between management commitment and employee performance. The study results by (Katsuro, 2010) showed that the lack of management commitment to occupational health and safety practices by seeking excuses with financial restrictions to improve those practices. This led to workers' dissatisfaction with the administration and low job performance and thus lower productivity.

#### **5.1.2 Occupational Health and Safety Control (Audit & Inspection)**

Positive and significant impact appears by value of the correlation coefficient between the independent variable (occupational health and safety control (audit & inspection)) and the dependent variable (employee performance) which is (0.694). The value of Adjusted R<sup>2</sup> was able to explain (47.8%) of the changes in the dependent variable (employee performance) and the rest was attributed to other factors. The results of the study showed the positive effect of occupational health and safety control by audit and inspection, as it is a basic step for following up the practices by specialists in companies. The study showed that the companies have an interest in documents, investigations and procedures before and after accidents. This would enhance the department's relationship with employees and external parties concerned with oversight and inspection and enhance employee confidence in companies and management. In addition, this practice includes documenting all events and procedures followed in all the tasks of the employees. This guarantees the rights in mutual exchange between the employee and the administration. The study findings are consistent with (Njogu et al., 2019), as its results showed that auditing and inspection enhances occupational health and safety practices that will enhance performance in general, either for the employee or for the companies themselves.

#### **5.1.3 Risk Assessment**

The results of the linear regression test of the independent variable (risk assessment) showed a positive and significant impact on the dependent variable (employee performance) where a result of R (0.77) appeared. The results of Adjusted R<sup>2</sup> emerged where it explained (59.1%) of the apparent changes of the dependent variable. Knowing the types of risks that an employee can be exposed to and evaluating that in a scientific and correct way reduce a large percentage of accidents and reduce their consequences if they occur for some reason. The result of the study confirmed that there is strong presence of this practice in the joint venture companies that were within the sample. He indicated that there is mutual awareness from the management and employee of the importance of this practice as a way to maintain the health and safety of the employees within the higher performance. Risk assessment enhances employee confidence in the task procedures required to perform

it and makes it more aware of the procedures that he must take if something went wrong during performing a task and here shows the positive impact through the study results of this independent variable on the dependent variable. The results of the study agreed with the case study of (Greepherson, 2013). Its results showed that occupational health and safety programs including the risk assessment program have a clear and significant impact on the performance of employees. Our findings also agreed with (Mojapelo, 2017) study results, where she indicated that the assessment and identification of risks and hazards enhance the performance of health, safety and thus increase the employees' performance during tasks performing.

#### **5.1.4 Information Availability**

The result of the linear regression test of the independent variable (information availability) showed the positive and significant impact on the dependent variable (employee performance) where a result of R (0.734) appeared, and the result of Adjusted R2 emerged where it explained (53.6%) of the apparent changes to the dependent variable. The responses of the respondents showed the positive effect of this independent factor on the dependent variable as the companies are concerned to provide a prior training and induction of the employee on the work environment and occupational health and safety practices as work requires. In addition, companies' interests in training employees to perform their daily tasks to ensure the workflow without occupational accidents may harm the employee or damage machines and hinder work.

The results of the study agreed with the study (Oluoch, 2015). Its results showed that the performance of the employee increases by activating occupational health and safety practices, especially providing the necessary information and training employees on these practices, (Oketunji, 2014), (Ashour et al., 2018). Their studies' results agreed on the significant impact of the practice of providing information and training employees on these practices and on their daily tasks.

#### **5.1.5 Personal Protecting Equipment & First Aid Availability**

The results of the linear regression test of the independent variable (Personal protecting equipment & first aid availability) showed the positive and significant impact on the dependent variable (employee performance) where the result of R (0.74), appeared, and the result of Adjusted R2 emerged where it explained (54.6%) of the apparent changes to the dependent variable.

It is easy for the employees to practice what they can touch. The practice of providing personal protection equipment and first aid kits has a positive effect on the employee's performance, as this practice is related to the same task. An employee cannot perform it except with the presence of these equipment, and that gives the employee psychological, personal comfort and confidence to the employee during performing his work to avoid many risks just by wearing it and their presence along with first aid and people trained in the event of any accidents.

The findings of Kasuma et al., (2019) are consistent with our findings that the personal protective equipment and first aid kit have significant positive relationship with safety performance. Many studies above proved that the highest safety performance the highest employee performance. Also the studies of (Oluoch, 2015), and (Oketunji, 2014) agreed with our findings about the positive direct impact of the personal protective equipment and first aid kit availability on employees' performance.

#### **5.2 Recommendations**

Based on what has been studied and the results that have emerged, we recommend the need to provide a healthy and safe work environment as it is classified as an important and essential factor in employees' performance. Occupational health and safety practices that were examined in this study (management commitment, occupational health and safety control (audit & inspection), risk assessment, information availability, personal protecting equipment and first aid availability) must be improved to protect the employee and property in order to reduce accidents and their side effects that may affect the workflow. We also recommend the necessity of raising awareness among employees regarding occupational health, safety concepts and practices by holding courses, seminars and educational workshops. We also recommend expanding the concepts of occupational health and safety to become a public culture in our society in addition to work environment

including these practices in the curriculum of schools and universities and integrating them with the Eastern Islamic culture that pervades this society.

### **5.3 Limitation**

This study suffered from several limitations. Participants are not open or sincere in responding to the questionnaires. Most of them answered questionnaires after asking the researchers several questions to overcome these challenges. The researchers explained the objectives of the study and assured that information collected would be treated with great confidentiality and the gender of the respondent since the sample is from industrial organizations which lack the presence of jobs for females except administrative jobs. The researcher faced difficulty in obtaining statistics, numbers and company names from relevant government institutions. The researchers relied on field visits to collect the numbers of employees, in addition to the annual reports issued by the organizations themselves. In addition, the timeline was disturbed due the COVID-19 effect, as most of the companies closed their doors based on the instructions of the government. After opening again, work was done with the minimum number of employees needed, which made the researchers task difficult to conduct.

### **5.4 Further Study**

This study was conducted in Joint ventures and it is preferable to conduct this study on the government sector and to consider whether the results will differ and the extent of compliance to occupational health and safety laws. The method of collecting information can be changed by replacing the questionnaires with interviews or open questions to open the door in more depth to study the impact of occupational health and safety practices. More variables related to occupational health and safety issue such as culture, cost, and penalties imposed by law and organizations can be studied.

The researcher suggests conducting further studies on the obstacles that hinder applying occupational health and safety practices and studying the impact of these practices in the light of the culture of the Eastern Islamic community. She also recommends conducting studies on the impact of the Covid-19 pandemic on commitment to occupational health and safety practice.

### **5.5 Conclusion**

In this study, we examined the relationship between occupational health, safety and employee performance. From the findings of the analysis in the chapter above use Pearson Correlation Coefficient analysis test statistic. The results indicated the existence of occupational health and safety practices in the companies chosen in the sample. As the administrations are committed to the occupational health and safety practices and there is clear oversight, inspection and periodic auditing by the occupational health and safety committees whose role and presence in the companies is observed through the results of the study. The results indicated that risk assessment is essential in the work of these companies. The departments are concerned with providing adequate information and specialized training in this field. Also, the results revealed a strong presence and interest by companies in providing personal protection equipment and first aid kits.

The main hypothesis resulting from Pearson correlation  $R (.887)$  emerged as a positive result that clarifies the relationship between them. In addition, as a result of the regression analysis  $R\text{-squared} (.786)$ , which indicates that the independent variable was taken in the study was able to explain (78.1%) of the changes in the dependent variable and the rest attributed to other factors. According to these results, we recommend that companies continue to apply occupational health and safety practices because of their positive results on employees' performance. We also recommend improving the occupational health and safety practices to ensure better results and ensuring a noticeable improvement in employee performance.

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