



The Impact of decision-making process on Occupational Risk Management in the Oil Industry

An Exploratory Study of a Sample of Workers in the Najaf Al-Ashraf Sector

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Abstract:

The current research aims to identify and analyze the impact of the decision-making process on the management of occupational risks in the oil sector. The researchers adopted the descriptive-analytical approach to define the theoretical conceptual framework and research variables, and then analyze the relationship of influence between the dependent and independent variables. A questionnaire was used as a tool to collect primary data from a research sample of (282) individuals, drawn from the research community represented by workers in the oil sector.

The researchers relied on SPSS-24 to conduct the required statistical analyses, such as calculating frequencies, arithmetic means, and standard deviations for the dimensions of the research variables, in addition to testing the research hypotheses using Pearson's correlation coefficient and simple regression analysis.

The researchers reached a set of conclusions, the most important of which is the existence of a statistically significant correlation and impact between the research variables in the oil sector from the perspective of the working personnel in Najaf Governorate, which supports the validation of the research hypothesis.

The research presented a set of recommendations, including the necessity for oil sector companies to focus on developing the capabilities and skills of



managers responsible for policy-making and decision-making, given the importance of these decisions and their direct impact on the present and future of oil companies.

Keywords: (Decision-making process, Occupational Risk Management, Oil Sector).

تأثير عملية اتخاذ القرار على إدارة المخاطر المهنية في الصناعات النفطية دراسة استطلاعية لعينه من العاملين في قطاع النفط الاشراف

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الملخص:

يهدف البحث الحالي إلى تحديد وتحليل تأثير عملية اتخاذ القرار في إدارة المخاطر المهنية في القطاع النفطي. واعتمد الباحثان المنهج الوصفي التحليلي لتحديد الإطار النظري المفاهيمي ومتغيرات البحث، ومن ثم تحليل علاقة التأثير بين المتغير التابع والمتغير المستقل. تم استخدام استمارة الاستبانة كأداة لجمع البيانات الأولية من عينة البحث التي بلغ عددها (٢٨٢) فرداً، مأخوذة من المجتمع البحثي المتمثل بالعاملين في القطاع النفطي.

وتم الاعتماد على برنامج SPSS24 لإجراء التحليلات الإحصائية المطلوبة، مثل حساب التكرارات وقيم الأوساط الحسابية والانحرافات المعيارية لأبعاد متغيرات البحث، بالإضافة إلى اختبار فرضيات البحث باستخدام معامل الارتباط بيرسون (Pearson-correlation) وتحليل الانحدار البسيط.

وتوصل الباحثان إلى مجموعة من الاستنتاجات، أهمها وجود علاقة ارتباط وتأثير ذات دلالة إحصائية بين متغيري البحث في القطاع النفطي من وجهة نظر الكوادر العاملة في محافظة النفط الأشرف، مما يدعم إثبات فرضية البحث.



وقدم البحث مجموعة من المقترحات، منها ضرورة اهتمام شركات القطاع النفطي بتتمة قدرات ومهارات المديرين المسؤولين عن رسم السياسات واتخاذ القرارات، نظراً لأهمية هذه القرارات وتأثيرها المباشر على حاضر ومستقبل الشركات النفطية.

الكلمات المفتاحية: (عملية اتخاذ القرار، إدارة المخاطر المهنية، القطاع النفطي)

Introduction

The oil industry, in all its stages, is considered a hazardous industry that requires the application of strict rules and precise procedures from the very beginning. The aim of this is to protect the environment from pollution or leaks, ensure the implementation of operational safety measures to safeguard workers and production facilities, and preserve the surrounding environment.

From this perspective, the decision-making process is a blend of science and art. On one hand, it is a science based on specific rules aimed at identifying risks, their causes, and types, predicting them, studying the factors that exacerbate them and their life cycle, as well as measuring their severity and assessing the ability to contain them. On the other hand, it is an art that allows for creativity in using scientific tools to achieve the best results in risk management in the shortest possible time, with minimal effort and losses, striving to create a safe and sustainable work environment.

In short, the decision-making process is a fundamental pillar in managing occupational risks in the oil sector, as it contributes to protecting lives, property, and the environment, while maintaining operational continuity with high efficiency.

Chapter One: Research Methodology and Previous Studies

First: Research Methodology

1- The Study Problem

This research aims to address a real problem that directly impacts the work environment and the performance of workers in the oil sector, causing economic damage at the national level. The Iraqi environment faces numerous challenges and pressures due to rapid changes and significant developments in the current era, which have negatively affected the performance of companies and hindered their operations . The decision-making process is one of the key tools that provide companies with the necessary flexibility to adapt and respond to environmental changes and complexities. However, Iraqi industrial companies, particularly in the oil sector, have not given it sufficient attention for implementation .

To enable researchers to effectively address the problem statement and highlight all aspects related to the research topic, dividing it into two research questions is a necessary step. The following questions are fundamental to answering the problem statement :

- What do we mean by the decision-making process?
- How does the decision-making process contribute to the management of occupational risks?

2- The Importance of the Study

2-1 Cognitive Importance



1. This research is among the significant studies that address the decision-making process and the management of occupational risks, due to its intersection with variables related to environmental preservation and human resources. We hope that this research will contribute to bridging a part of the gap in both the Iraqi and Arabic libraries.

2. Clarifying the requirements for implementing the decision-making process through studies that have addressed the topic contributes to building a solid foundation that is practically applicable for managing occupational risks. This saves our companies effort, prevents failure, and creates a safe working environment for them.

2-2 Field Importance

1. Providing a framework that serves as a guideline for companies in the oil sector, contributing to facilitating the decision-making process and raising awareness among management leadership about its importance and positive impacts on occupational risk management.

2. The decision-making process serves as an independent verification resource to ensure that the organization's efforts are proactive and effective against current and emerging threats, which are reflected in the work environment of the oil sector.

3- Study Objectives

This study aims to reach scientific cognitive facts that can be generalized to support solving the issues related to the study topic, which can be identified as follows:



1. Highlighting the role of the decision-making process in enhancing the level of a safe working environment by identifying ways to address deviations that arise during work .
2. Contributing to the intellectual and practical understanding of the decision-making process to improve the safe working environment in the oil sector through risk management .
3. Providing a set of conclusions and recommendations for administrative leaders in the oil sector to enhance their performance and encourage them to apply the decision-making process efficiently and effectively in risk management, ensuring a safe and sustainable working environment.

4- Study Model (Study Framework)

Achieving the research objectives requires constructing a model based on the composition of its fundamental variables. According to the researchers' perspective and based on the nature of the problem and the expected objectives, this model was developed:

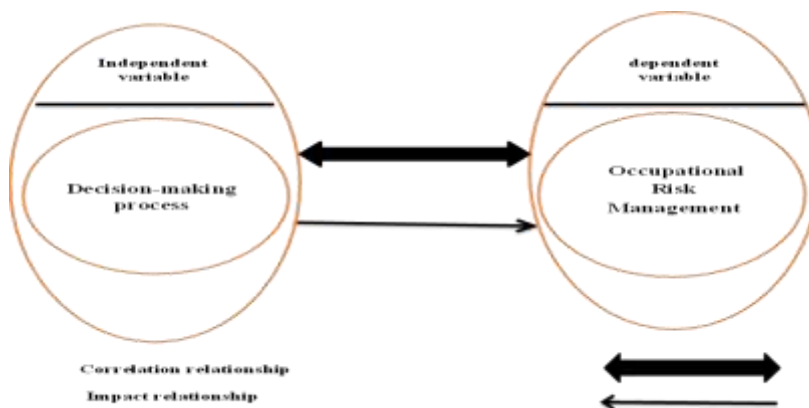
Independent Variables :It is represented by the decision-making process.

Dependent Variable :It is occupational risk management.

ISO 31000:2018(E). International Standard. Risk management –
Management du risque – Lignes directrices. Second Guidelines.
edition2018-02.P9

<https://shahrdevelopment.ir/wp-content/uploads/2020/03/ISO-31000.pdf>

As illustrated in the framework of the hypothetical research model in the figure below:



A figure representing the hypothetical model of the study, prepared by the researchers

5- Study Hypothesis

In light of the aforementioned problem, the following hypothesis was formulated :

There is a statistically significant impact between the decision-making process and occupational risk management in the oil sector.

6- Study Limitations

The scope of the study was divided into two main directions. The first direction was the geographical scope, as the study focused on the oil sector in Najaf Governorate. The second direction was the human scope, where 282 questionnaires were distributed to workers in the oil sector, all of which were valid for statistical analysis .

To ensure sufficient participation, the researchers used phone calls, targeted email messages, and personal communications. Emphasis was placed on the confidentiality of participants' identities,



personal information, and locations to ensure a reliable and credible study. The researchers limited themselves to reporting only the essential information.

7- Study Methodology

Based on the nature of the study and the desired objectives, the researchers adopted a dual approach. On the theoretical side, the descriptive–analytical method was used to study the problem, test its hypothesis, and achieve the desired objectives. On the practical side, the experimental–analytical method was employed, which allows testing the hypothesis by controlling variables and identifying their direct impact, thereby helping to determine the causal relationship between the variables.

8- Study Tool

A questionnaire was developed as the primary tool for collecting data on the topic and measuring the extent to which the oil sector applies the decision–making process and its impact on achieving a safe work environment. The questionnaire was specifically designed to cover the axes identified by the researchers and to answer the study hypotheses. The questionnaire included three main axes :

Axis One: Pertains to the characteristics of the respondents .

Axis Two: Focuses on the decision–making process and includes statements (1–12).

Axis Three: Addresses occupational risk management and includes statements (13–27).



Secondly: Previous Studies

Given the specificity of the topic of protecting the work environment from occupational risks in the oil sector, the researchers saw the need to expand the scope of utilizing scientific literature to include other fields, rather than relying exclusively on literature related to the oil sector. Based on the research conducted by the researchers and according to their capabilities, they identified a set of previous studies relevant to the subject of the study. Although there is no exact matching study that combines the variables of the current study, these studies contribute to achieving the research objectives and can be summarized as follows :

researcher	(Alshubaili,2023)
Thesis Title	Evaluation of commitment to applying risk management in the events and conferences sector in the Riyadh region, KSA
Thesis Objective	Measuring the commitment of the management of the Events and Conferences sector in the Riyadh region to using risk management.
Application domain	A sample of (153) workers in the Riyadh region of the Kingdom of Saudi Arabia.
	–The degree to which the study sample individuals applied risk management in organizing conferences and events was overall rated as "agree". –There were no statistically significant differences in the degree of risk management application in the events and conferences sector (Riyadh



Main Results	region) based on the age variable. –However, there were statistically significant differences in the degree of risk management application in the events and conferences sector (Riyadh region) attributed to the educational qualification variable, with study individuals holding a (Diploma) qualification. –There were statistically significant differences in the degree of risk management application in the events and conferences sector (Riyadh region) attributed to the variable of (years of experience), with study individuals who had more than 11 years of experience.
researcher	(Khadija, 2022)
Thesis Title	The Effectiveness of Using Optimization Techniques for Decision–Making in a Production Institution: The Case of Linde Gaz Algeria Institution
Thesis Objective	Highlighting the role, importance, and effectiveness of using optimization techniques in the organization by relying on the Lingo18 program under conditions of precision, in order to determine the optimal quantity that achieves the overall objectives of the organization while respecting various constraints.
Application domain	The applied study was conducted at the Lind Gaz Algeria production facility.
Main Results	The goal programming model is considered an effective approach for dealing with problems involving multiple and conflicting objectives. It is based on a fundamental principle that decision–makers typically do not seek optimal solutions but rather aim for solutions that can be deemed acceptable or close to the ideal situation.
researcher	(Al–Hawamdeh, 2023)
Thesis	The Impact of Foresight on the Implementation of ISO 22301



Title	Business Continuity Management System in the Commercial Banking Sector in Jordan
Thesis Objective	The aim was to explore the impact of foresight on the implementation of the Business Continuity Management System according to ISO 22301 in the commercial banking sector in Jordan.
Applicati on domain	The study population consisted of all employees, totaling (400) staff members, from the Arab Islamic Bank and the Jordan National Bank. A study sample of (196) employees was selected using a random sampling method. The study adopted a descriptive and analytical approach, and a questionnaire was used as the tool for data collection.
Main Results	The relative importance of foresight was found to be high, as was the relative importance of implementing a business continuity management system, which ranked first after support. Meanwhile, leadership ranked last but still with high relative importance. The results indicated a statistically significant impact of foresight on the implementation of the ISO 22301 business continuity management system standard across its combined dimensions.
researche	(Al-Siyari, 2024)
Thesis Objective	Risk Management in Secondary Schools in the Kingdom of Saudi Arabia (A Field Study)
Thesis Objective	The research aimed to identify the reality of risk management in secondary schools in Riyadh city from the perspective of school principals and to provide proposals for addressing some potential risks in secondary schools in Riyadh city from the perspective of school principals.
	The ranking of the axis of the reality of risk management in secondary schools in Riyadh city from the perspective of school principals among the sample individuals is as follows: implementation of risk management , with an arithmetic mean of (4.60), followed by evaluation of risk management , with an arithmetic mean of (4.52), and finally planning for risk management , with an arithmetic mean of (4.51). As evident from the



Main Results	overall arithmetic mean of (4.54), the degree of application for the statements of this axis is very high . It is also clear that the axis of **proposals to address some potential risks in secondary schools in Riyadh city** from the perspective of school principals is ranked as follows: **proposals to address facility and infrastructure risks**, with an arithmetic mean of (4.92), indicating that the sample individuals strongly agree with this, followed by **proposals to address security risks**, with an arithmetic mean of (4.91), and finally **proposals to address safety and security risks**, with an arithmetic mean of (4.88). The overall arithmetic mean of (4.90) further emphasizes this . There are no statistically significant differences in the responses of the sample individuals regarding **planning for risk management**, **implementation of risk management**, **evaluation of risk management**, **proposals to address safety and security risks**, **proposals to address facility risks**, and finally, there are no statistically significant differences in the responses of the sample individuals regarding **proposals to address facility risks.**
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Chapter Two: Theoretical Framework of the Research

Making Process–First: The Decision

1–1 The Concept of the Decision–Making Process

The decision–making process in the oil sector is the cornerstone of managerial activity, as it represents the essence of the administrative process. This is due to its direct impact on the sector, as it involves choosing among alternatives to achieve the desired goal. This process begins with identifying the problem and continues through to making and implementing the decision.



From a linguistic perspective, 'taking' means "to take the essence of something, taking and re-taking it, possessing and obtaining it" (Ibrahim et al., 2011:8). There are many linguistic definitions of the term 'decision.' For example, it is defined by (Ibn Manzur, 1994:345) as "Qurra 'Aynahu' meaning he was delighted and satisfied, thus he is 'Qareer Al-Ayn' (content). It is also said: 'Qarra bi-hadhaa al-amri 'Aynan' (he was content with this matter)", as in the words of Allah Almighty

{... كي تقرَّ عينُها ولا تحزن} (القصص: ١٣).

The process of decision-making is the essence and core of the management function. The more complex the environment in which an organization operates, the greater the importance of the decision-making process. Simon emphasized its significance by stating that "management is the process of decision-making" (Al-Shamma & Hammoud, 2007:72). Additionally, decisions are usually made by a specific entity, referred to as the decision-maker, whether this entity is a manager, an official, or any level within the organizational structure. Given the critical importance of the decision-making process and its central role in the administrative process, numerous definitions have been proposed. Harrison attempted to provide a comprehensive definition of the decision-making process as "the act of making a judgment about what an individual should do in a specific situation, after carefully examining



the various alternatives that could be employed."(Maghrabi,2018:259).

Based on this, the researchers believe that the decision-making process is both a technical and mental process. It requires sufficient familiarity with the technical aspects and accurate information related to the subject, as well as high skills in analysis, comparing alternatives, and selecting the most suitable option.

1-2 Thinking About Decision-Making

Thinking is defined as a"complex concept consisting of three elements: complex cognitive processes, most notably problem-solving, and less complex ones such as comprehension and application, in addition to specific knowledge of the subject matter or topic, along with the availability of various personal predispositions and factors, particularly attitudes and inclinations"(Joudat,2003:40) .

There are various patterns and types of thinking, and among these types are:

a. Reflective Thinking or Problem-Solving Thinking

It is one of the patterns of thinking that an individual resorts to when facing a situation or problem that requires finding an appropriate solution."It involves reflecting on the situation, analyzing its components, and drawing up the necessary plans to understand it until reaching results. It is directed thinking, as it directs mental processes toward specific goals."(Obeid&Afana,2003:41).



- b. **Critical Thinking:** It is "the ability of an individual to express an opinion, whether in support or opposition, in various situations, while providing convincing reasons for each viewpoint" (Al-Khalili, 2005: 156).
- c. **Associative Thinking:** This type of thinking involves the individual linking stimuli and responses in various situations they encounter. This kind of thinking arises as a result of repetition, trial and error, and learning.
- d. **Deductive Reasoning:** It is "a complex mental process aimed at solving a problem mentally through symbols and past experiences. It is a thinking process that involves moving from known premises to a specific conclusion and transitioning from the known to the unknown" (Obeid and Afana, 2003: 41).
- e. **Comprehensive Thinking:** This is a directed form of thinking in which thought processes are guided toward specific goals. It relies on both deduction and induction to enable the individual to arrive at a solution to their problem.
- f. **Insightful Cognitive Thinking:** This is a type of thinking where an individual arrives at a solution suddenly by seriously contemplating the problem, understanding its elements and relationships, until reaching the stage of insight
- g. **Systems Thinking:** "Focus on systems thinking has increased recently due to rapid developments in scientific, social, and cultural patterns, as well as the need to acquire and summarize



knowledge through satellites, the internet, and communication systems"(Obeid&Afana, 2003:41).

- h. **Visual Thinking:** It is "seeing accompanied by contemplation, and thinking that leads to the production of knowledge and information, discovery, and understanding of laws" (Obeid&Afana, 2003:41).
- i. **Productive Thinking:** It is the path we follow to reach a genuine level of thinking that leads to achieving returns. Productive thinking is not a definition of thinking, nor is it a type of thinking; rather, it is an integrated mechanism. By activating this mechanism, a sustainable impact is achieved in transforming ideas into products across any sector (Restoring Awareness through Thinking).

Because all solutions to problems and risks faced by the oil sector in all its forms require good decisions, both (Al-Saed&Ali,2001:15) emphasized"the importance of study and conscious, objective thinking in the decision-making process, assuming that a choice is made between at least two options".(Graun,1999:145) noted that"some researchers have classified the decision-making process as part of complex thinking strategies, as it requires the use of many higher-order thinking skills such as analysis, evaluation, induction, and deduction. Therefore, it may be appropriate to classify it under complex thinking strategies, such as creative thinking, critical thinking, and problem-solving".Accordingly, the **researchers view** thinking as a



mental process that occurs within the realm of human consciousness. It operates within a framework of processing, influenced by the individual's knowledge reservoir, to envision a more productive and sustainable future state.

The organization must create mental perceptions that shape reality and the future correctly without paying attention to discouragements and causes of incapacity. This is achieved through proactive learning, whereby individuals learn to identify and solve problems and make decisions independently. It also involves them in self-reflection and evaluating their performance. This can help them understand how they learn and retain information, enabling them to develop more effective learning strategies to enhance information retention and recall. This is because they are actively engaged in learning."Proactive learning can help develop the social, collaborative, and problem-solving skills necessary in increasingly complex work environments" (Irudayaselvam,2023:31).

Ideally, the most qualified person should take responsibility for making decisions in high-risk situations after identifying the risks and being capable of managing them. This is what (Al-Balqini&Wasif, 2004:29) emphasized, stating that risk management is"the decision-making process to confront any risk, enabling an individual or municipality to reduce the negative impact resulting from the presence of the risk."Additionally, responsibilities should be agreed upon among the involved parties as soon as possible.



1-3 Theories of Decision-Making Process

In decision-making, its philosophy, and the methods used in making decisions, (Estal,2016:237) defined decision theory as"a systematic analytical approach to dealing with problems in an organized scientific manner, utilizing a quantitative methodology that aids in evaluating and selecting optimal alternatives."Among the most prominent of these theories are those mentioned by: (Al-Salmi,2005:42)

–**The Classical Theory:** This is the model that describes the rational economic man. It starts from the assumption that people possess economic rationality and always strive to achieve maximum output through a systematic process and sequential steps.

–**The Behavioral Theory,** which is considered the modern theory (for decision-making). It assumes that decision-makers are objective, possess complete information, and study all possible alternatives and their consequences before selecting the optimal solution.

–**Quantitative Theory:** This theory emerged as a response to the ideas presented by earlier theories (classical and behavioral) in an attempt to reconcile the two approaches. The roots of this theory can be traced back to the scientific management theory of the classical school, which introduced the principle of studying motion and time in relation to the individual worker.



Decisions are made collectively by involving a group that provides necessary advice, rather than relying on a single decision-maker (individual decision). The information gathered by individuals is important" (Mahmoud, 2002:145). This directly impacts performance, which is why many organizations strive to "provide all the necessary means and appropriate methods to measure and evaluate the performance of their individuals. This is done to identify strengths and enhance them, as well as to recognize weaknesses and address them." However, most of these decisions are characterized by bounded rationality, a concept highlighted by the thinker Simon, the proponent of the administrative decision-making theory. He pointed out that there are many factors that prevent a manager from achieving complete rationality" (Oqaily, 2007, 234)

Second: Occupational Risk Management

1- Concept and Importance

The success of risk management in an organization will positively reflect on its performance, which in turn will positively impact the performance of the national economy as a whole. This is because risk management is a subsystem of a broader system, which is the organization, and the organization itself is a subsystem of an even broader system, the national economy in which it operates. This is based on the concept that a system is "a set of interconnected and interacting units, elements, or processes that come together to form an organized whole, where the value of its outputs is greater than the



sum of the inputs provided by the participating units if they were to operate independently. Thus, the organization is an integrated whole consisting of a set of subsystems through functions, activities, objectives, structures, and various relationships. It is a unified and indivisible entity that interacts within a changing environment"(Al-Ajili&Al-Hakim,2008:36).

Risk is defined as "the effect of uncertainty on objectives"(ISO 31000:2018:1). Similarly, (Tere et al.2018:4) define risk as"uncertainty and the severity of the consequences of an activity in relation to something valued by humans."In this context, Travis Pritchett defines risk management as: "the scientific approach used to identify potential hazards, classify them according to their likelihood of occurrence, measure them, and then select the most appropriate methods to address them at the lowest possible cost. This means that risk management is carried out through the use of scientific methods, whether they are procedures, laws, or instructions, to either reduce the frequency of loss, mitigate the severity of loss at the lowest possible cost if it occurs, or achieve both objectives" (Al-Ilmi,2020:36). The researchers believe that risk management stems from a conscious managerial mindset and a sense of responsibility among leaders of organizations, regardless of their titles or levels, toward achieving their desired goals :

Occupational risks are defined as "those problems and obstacles arising from probability and uncertainty that a worker faces in the work



environment, which may cause physical or psychological harm and injuries, and may also result in additional costs"(Boukhenoufa,2020:24)

Occupational risk management is"a scientific approach or method for dealing with pure risks by identifying anticipated events, predicting potential incidental losses, and designing and implementing measures that minimize the likelihood of losses to the greatest extent possible, ensuring the achievement of desired objectives"(Zegart&Rice,2018:23).

To clarify its importance as a managerial approach with a specialized technical nature to address the pure risks faced by companies and the reality of risks within the organization, it can be stated that:

1. Identifying risks that may affect the company's performance is an effective preventive measure to mitigate their impact in case they occur.
2. Establishing procedures to avoid risks or reduce their effects early on helps in developing optimal and more effective solutions, rather than resorting to temporary fixes that may be more costly and less impactful.
3. The need for a scientific methodology to predict and manage risks.
4. Employees need guidelines to regulate their performance during risk events and help maintain the quality level of service delivery.



5. The need to unify concepts and practices in the field of risk management and to share expertise and knowledge across different management levels.

The most important issue is that the organization adopts a risk classification system that is most suitable for its specific conditions, requiring particular management or analysis. Accordingly, occupational risks in productive work environments can be classified into "physical risks, engineering risks, machinery, and the human element" (Nabil, 2020:197). In addition to these, there are chemical risks such as "gases and vapors, dust, solvents, toxic metals, and pesticides" (Hazza, 2012:72).

Naturally, "a category of risks where loss is the only possible outcome, and pure risks are associated with events or factors beyond the control of the exposed party" (Al-Ayyashi, 2016: 33). These risks include the loss of property, personnel, and financial assets. They are divided into three categories:

- **Personal Risks (People Assets):** These are related to human resources and include the safety and health of individuals.
- **Property Risks (Material Assets):** These pertain to physical resources such as buildings, equipment, and other properties .
- **Liability Risks:** These relate to legal obligations that can impact the two aforementioned categories, including civil and social responsibility for damages caused to others due to errors or negligence.



Risk management encompasses multiple objectives that go beyond safety, such as economic considerations. This complexity requires a quantitative approach to mitigate cognitive biases in decision-making (Wright, 2018). While effective decision-making can enhance a safe work environment, it is essential to recognize that economic goals may sometimes overshadow safety considerations, leading to potential workplace risks.

2- Risk Management Requirements

Risk management officials can support boards of directors and enhance the formality of risk management activities by utilizing documented risk management plans, policies, and procedures. These formal procedures are often influenced by corporate governance regulations at the regulatory level and risk management standards that guide professional risk management practices, such as (ISO 31000:2018). Similarly, "non-executive directors can introduce more formal risk management practices into organizations, particularly when they feel pressured to do so by regulators and policymakers" (Krause et al., 2019: 291).

Accordingly, there are a number of requirements that must be met, which should guide its management:

- The time frame available for risk management
- The resources available
- The personnel willing to address the risks



3- Policies of Risk Management

At the outset of the discussion, it is important to clarify that the term "policies" refers to written guidelines that direct and manage processes. Although it is challenging to compile the diverse policies that can be used in risk management due to their multiplicity and complexity, they can be grouped into categories containing similar policies. However, it should be noted that risk management policies evolve, change, and renew from time to time and from one society to another.

The risk management policies can be categorized as follows:

- a. Risk Assumption Policy (Accepting and Retaining Risk),
- b. Prevention and Prohibition Policy,
- c. The policy of transferring or shifting risk,
- d. Risk Reduction Policy.

4. Components of a Risk Management Plan

The risk management plan identifies anticipated risks and provides a systematic application of policies, a set of procedures, and practices for the organization's activities that must be undertaken to prevent the occurrence of risks and mitigate their impact in case they materialize.

In this context, the risk management process refers to the logical steps for managing risks according to the ISO 31000:2018 risk management standard. It includes critical stages for developing an effective risk management plan, which is characterized by being



integrated and continuous with each other in practice. These steps are:

1. Communication and Consult
2. Establishing the Context Stage
3. Identify the risk stage
4. Risk analysis stage
5. Risk evaluation stage
6. Risk Treatment Stag
7. Monitoring and Review
8. Registration and Reporting

Risk management is an integral part of management and decision-making, embedded in the structure, operations, and outcomes of an organization. It is as much an art as it is a science, reflecting the quantitative measurement of risks as well as a deeper, more tangible understanding of the nature of risks. It is applied at strategic, program, and project levels and addresses the dynamic and evolving nature of human behavior and culture throughout all stages of the risk management process. It is an iterative process that, with each cycle, can gradually contribute to organizational improvement by providing management with greater insight into risks and their impact, even though it is often presented in a sequential manner.

The risk list (risk identification) is a fundamental pillar of the risk management strategy, as it is used to monitor performance regarding



risk management. The risk list is periodically reviewed, and progress in risk management is assessed through various methods, including:

- Frequency of risk occurrence .
- The extent of changes in the risk list .
- The effectiveness of the preventive measures taken and their success in mitigating the risk .
- The level of employee involvement in identifying the risk list .
- Problems, as a general rule, resolve themselves or disappear if you empower others .
- The extent to which the risk list is updated in terms of the emergence of new risks and the closure of previous risks.
- The extent of orientation in risk assessment in terms of the magnitude of their impact (high, medium, low) measurement .

The decision-maker determines whether there are standards or methods through which risks can, should, or must be controlled. These risks fall within one or more major hierarchical groups. The hierarchy of risk control includes a set of controls, as outlined by the: (International Labour Organization,2017:28).

1. **Elimination**, which begins with removing or isolating the hazard, for example, modifying the design, such as creating a well-structured plan to control chemical risks and monitoring the work environment to ensure it is free from hazards .
2. **Substitution, for example**, reducing electrical voltage .



3. **Engineering controls**, which involve engineering control of hazards through deliberate changes to equipment and tools used, such as installing automated systems .
4. **Administrative controls**, including signs, warnings, and administrative measures, such as issuing work permits or following specific steps to perform a task, for example, safety signs, preparing safety instructions, and administrative procedures including penalties .
5. **Personal protective equipment (PPE)**, such as safety goggles, gloves, respirators, and so on.

Chapter Three: Practical Aspect

The oil sector was chosen as the field to test the study model and its hypotheses. Table (1) provides a detailed description of the study sample data. The researchers distributed 300 questionnaires and retrieved 290. They attributed the missing questionnaires to some sample members refusing to respond and others failing to return the questionnaires. Additionally, there were several incomplete questionnaires, with 8 being invalid due to incorrect responses that did not meet the required conditions. These were excluded and considered missing, leaving 282 valid questionnaires, representing 94% of the main sample, which were suitable for analysis and constituted the final sample size. By answering the questions in the first part of the questionnaire, the researchers were able to determine



the characteristics of the sample members and confirm their ability to respond to the directed statements.

Table (1) Description of the sample respondents based on information from the questionnaire form prepared by the researchers

n	Variables	Targeted groups	The number	Representation percentage
1	Gender	Males	267	95
		Females	15	5
	Total		282	100 %
2	Academic Achievement	Master's	6	2
		Bachelor's	197	70
		Diploma	33	12
		Preparatory	46	16
	Total		282	100 %
3	Specialization	Administrative	21	7
		Engineer	174	62
		Technician	87	31
	Total		282	100 %
4	Years of experience	1-5	43	15
		6-10	47	17
		11-20	171	61
		21 above	21	7
	Total		282	100 %

From the table above, it is evident that there is diversity in terms of specialization, with 62% of workers in the engineering field and 7% in



the administrative field. This indicates the dominance of technical personnel over administrative staff in the oil sector .

The researchers believe that this ratio is very logical given the nature of work in oil companies, which is often operational and requires immediate and proactive decision-making in high-risk environments, unlike administrative staff whose presence is required in specific places such as offices, where the scope for decision-making is limited.

First: Descriptive Analysis of Variable Data

Table (2) Results of the Descriptive Analysis of Decision-Making Process Variable Data

Paragraph	Representa tion	Standard deviation	The weighted	Order of importance
The decision-maker tries to anticipate the results of their decision before implementing a specific solution.	18	49	90	4
When the decision-maker plans a specific decision, they precisely determine the results they want to achieve.	9	36	48	8
The decision-maker is constantly searching for alternatives and possibilities related to the decision they have made until they find the suitable option for that decision.	15	39	77	6
The decision-maker considers all the alternatives suitable for addressing a specific threat when making a particular decision, taking into account	16	50	82	5



the positive and negative aspects related to the subject of this decision.				
The most important threats (potential risks from employees) can be identified through the optimal use of processed information.	20	89	100	2
The worker's ability to identify, assess, and manage occupational risks, along with their knowledge of the requirements for a safe work environment, personal characteristics, skills, and experience in the field of occupational safety, contributes to the effective organization of worker protection and enhances the efficiency of the oil sector.	20	31	100	2
The management makes urgent decisions when declaring risks.	19	15	955	3
Identifying the weaknesses that the sector suffers from helps in improving the areas of deficiency.	12	67	625	7
The processed information can be used to identify the most important opportunities that can be taken advantage of.	12	73	602	7
The administration allows workers to make decisions that impact the implementation in the oil sector.	20	11	103	2
Risks and accidents are evaluated, analyzed and avoided.	24	61	122	1
The decision maker establishes a protection system against potential future risks.	24	65	120	1
	17,4 1	48,8 3	252	Decision- making



Commitment to the procedures and standards established by the oil sector.	16	50	815	6
Collaborate at the strategic and operational level to manage risk.	11	41	586	11
The oil sector relies on itself to determine the appropriate means to address the risk.	22	53	110	3
The oil sector employs advanced technological methods to address the risks it faces.	11	49	561	11
The oil sector aims to avoid losses resulting from the risks it faces.	10	57	521	12
The oil sector relies on advanced planning and scheduling systems.	16	19	845	6
The management is concerned with organizing the work site and providing all safety and prevention requirements.	20	61	100	4
The oil sector evaluates risk according to its level of severity.	23	61	117	2
Senior management consults with risk management when developing work methods and risk protection measures.	13	42	696	9
The oil sector aims to address the risks it faces based on its capabilities.	12	61	630	10
Management stresses the need to protect workers themselves from falling into danger.	19	37	997	5
The oil sector evaluates risk based on returns and costs.	15	53	757	7
The oil sector has the ability to confront all the risks associated with decision-making.	14	61	730	8



The oil sector continuously assesses and reviews the risks it faces.	9	44	494	13
Documents assessment findings that could lead to business interruption.	24	83	121	1
	15.1 1	51,4 6	518,8 6	Occupational Risk

The descriptive analytical results in the table above indicate that the decision-making process variable recorded an overall positive reading of (41.17%) in terms of its relative importance. The weighted arithmetic mean was (252), and the standard deviation was (83.48). The statements that most supported the positivity of this dimension were items (11 and 12), which stated: "Risks and accidents are evaluated, analyzed, and avoided" and "The decision-maker establishes a system to protect against potential future hazards." These items recorded a relative importance value of (24%) and ranked first. On the other hand, the least positive statement was item (2), which ranked last and stated: "When the decision-maker plans a specific decision, they precisely define the outcomes they aim to achieve." This item recorded a relative importance value of (9%).

Similarly, the descriptive analytical results for the occupational risk management variable showed an overall positive reading of (11.15%) in terms of its relative importance or weight. The weighted arithmetic mean was (866.518), and the standard deviation was (466.51). The



statement that most supported the positivity of this dimension was item (27), which stated: "The results of the assessment, which could lead to work stoppages, are documented." This item recorded a relative importance value of (24%). Conversely, the least positive statement was item (26), which stated: "The oil sector continuously assesses and reviews the risks it is exposed to." This item recorded a relative importance value of (9%).

Secondly: Statistical Analysis of the Impact Relationship Between Decision-Making and Occupational Risk Management

The hypotheses of the impact are tested through the path coefficients in the structural model using the Partial Least Squares (PLS) method, according to (Hair et al.,2014:172), based on the criteria outlined in the table below:

Table (3): Structural Model Evaluation Criteria Table

Criterion		The threshold (the permissible limit)
Path coefficient	Value t	Greater than or equal to 1.96
	Value p	Less than or equal to 0.05

By conducting the path analysis test available in the AMOS.V.26 program, the main and subsidiary impact hypotheses of the study are tested, and the results shown below are obtained:



The main hypothesis			P	C.R	S.E	Estimate	result
Decision-making process	→	Occupational Risk Management	0.00	2.50	0.32	0.66	The hypothesis is .accepted

Table (4) Hypothesis Testing from the Outputs of the AMOS V.26 Program

From Table (4), it is evident that there is a statistically significant direct impact, as the C.R values are greater than (1.96) and the p-values are less than (0.05), between the decision-making process and occupational risk management. The estimated value reached (0.66), and thus the hypothesis is accepted.

Labor movements and the associated risks highlight the importance of understanding decision-making in professional environments. Decision-making plays a crucial role in occupational risk management, influencing how risks are assessed, prioritized, and mitigated. An effective decision-making process can significantly enhance workplace safety and reduce accidents, thereby achieving a secure work environment for employees. This finding aligns with a study conducted by (Yu et al.2022) in coal mining, where a behavioral



risk correction system was developed to address unsafe practices, demonstrating the impact of decision-making on occupational safety.

Chapter Four: Conclusions and Recommendations

First: Conclusions

The results of the statistical analysis showed a strong and positive relationship between the independent variable "decision-making process" and the dependent variable "occupational risk management." This is attributed to the fact that occupational risk management, according to the views of the study sample in the oil sector in Najaf Al-Ashraf, relies on rational decision-making. Sound decision-making contributes to improving performance, reducing human errors, and minimizing workplace accidents and injuries, aligning with company policies and fostering a safe working environment for employees

Given the high level of risks in this sector, ranging from industrial accidents and oil spills to environmental damage, the decision-making process becomes more sensitive. This requires precise data analysis, comprehensive evaluation of potential scenarios, and the selection of the most effective solutions to mitigate negative impacts

Second: Recommendations

- 1. The necessity for oil sector companies to focus on developing the capabilities and skills of managers responsible for policy-making and decision-making.** This is crucial due to the



significant impact these decisions have on the present and future of oil companies. It requires dealing correctly with the characteristics of decisions to mitigate the negative effects that the oil sector may face when exposed to threats.

2. **It is essential for decision-makers in the oil sector to focus on creating and developing a network of human resource relationships within the sector.** This aims to build a collaborative and effective work environment capable of confronting risks, while emphasizing that the success of the sector is a success for all.

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