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N°: .....



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MANAGEMENT CONTROL

**The Role of Internal Control System in Risk Management**  
**-Case Study of MAGHREB PIPE COMPANY in M'sila-**

**Dissertation Submitted to the Department of Financial Sciences and Accounting in partial fulfillment of the Requirements for the Master's Degree in Audit and Management Control**

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## Dedication

*I dedicate my dissertation work to*

*Whom I proudly bear his name, who burned candles to light my path full of success with determination, to whom first taught me the value of ethics and education. To my beloved father **Djamel** for his endless love, support and encouragement. Your words will remain the stars that guide me today and forever.*

*The miracle of my life, dear mother **Ouahiba**, who leads me through the valley of darkness with the light of hope and support, to whom was her prayer the secret of my success, to the reason of what I am now, which I will always need her no matter how old I am, thank you for being the anchor in this stormy sea of life.*

*Those who shared with me the sweetness and bitterness of life under the same roof; to my brother **Ahmed** and to my sisters **Hana & Amira** for being the walls I put my back on, I will never forget your support and encouragement, I am so lucky to be a part of this family.*

*My beloved angels **Liliane** and **Nelya** who are the symbols of love and happiness.*

*The wellspring of tenderness my **Grandmother**, may Allah prolong her life and wellness.*

*It is also dedicated to all the people around me, my teachers, friends and mates.*

Thank you for being a part  
in my life journey, who  
stands by me when things  
look bleak.

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## Abstract:

This study aims to identify the basics of the internal control system as a means of risk management in terms of addressing the theoretical framework of both the internal control system and risk management and determining the relationship between them. In addition to addressing the basic components of the internal control system according to the most famous systems **COCO**, **Turnbull** and **COSO**. The study also addressed the basic features of an effective and efficient internal control system and clarified its role and importance in companies.

The study relied on the analytical descriptive approach with regard to the theoretical part, as for the practical part, the case study method was used by conducting a series of direct interviews with officials and workers in the Maghreb Pipe Company in M'sila and discussing with them the importance of an effective internal control system and its impact on the performance of the company.

The study reached several results, the most important of which is that the company under study has great awareness regarding the importance of an effective internal control system and its role in managing the risks faced by the company, which ultimately affects its performance level. Finally, some suggestions were made to the management of the company under study to overcome some of the difficulties it is facing.

**Keywords:** *Internal Control - Risk Management - Efficiency and Effectiveness – Governance - Performance Evaluation*

## المخلص

تهدف هذه الدراسة إلى التعرف على أساسيات نظام الرقابة الداخلية كوسيلة لإدارة المخاطر من حيث معالجة الإطار النظري لكل من نظام الرقابة الداخلية وإدارة المخاطر وتحديد العلاقة بينهما، بالإضافة إلى التطرق للمكونات الأساسية لنظام الرقابة الداخلية حسب أشهر الأنظمة **COCO**، **Turnbull** و **COSO**. كما تناولت الدراسة السمات الأساسية لنظام الرقابة الداخلية الفعال والكفاء وتوضيح دوره وأهميته في الشركات.

اعتمدت الدراسة على المنهج الوصفي التحليلي فيما يتعلق بالجانب النظري، أما بالنسبة للجانب التطبيقي فتم استخدام أسلوب دراسة الحالة وذلك عن طريق إجراء سلسلة من اللقاءات المباشرة مع المسؤولين والعمال في شركة مغرب بايب لصناعة الأنابيب بالمسيلة ومناقشتهم فيما يتعلق بأهمية وجود نظام رقابة داخلية فعال وأثره على أداء الشركة.

توصلت الدراسة إلى عدة نتائج من أهمها أن الشركة محل الدراسة لها وعي كبير فيما يتعلق بأهمية وجود نظام رقابة داخلية فعال ودوره في إدارة المخاطر التي تواجهها الشركة مما يؤثر في النهاية على مستوى أدائها. وفي الأخير تم تقديم بعض الإقتراحات لإدارة الشركة محل الدراسة لتجاوز بعض الصعوبات التي تواجهها.

**الكلمات المفتاحية:** الرقابة الداخلية، إدارة المخاطر، الكفاءة والفعالية، الحوكمة، تقييم الأداء.

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## **List of abbreviations**

- AICPA:** The American Institute of Certified Public Accountants
- COSO:** Committee Of Sponsoring Organizations of the Treadway Commission
- COCO:** The Canadian Institute of Canada's Criteria of Control
- SEC:** Securities and Exchange Commission
- AAA:** The American Accounting Association
- FEI:** Financial Executives International
- IIA:** The Institute of Internal Auditors
- IMA:** The Institute of Management Accountants
- ISACA:** the Information Systems Audit and Control Association
- IIA:** Institute of Internal Auditors
- FIRM:** Financial Infrastructure Reputational Marketplace
- ERM:** Enterprise Risk Management
- IRM:** Institute of Risk Management
- SCF:** System Comptabilité et Finance – Financial Accounting System-
- ICS:** Internal Control System
- USA:** United State of America
- UK:** United Kingdom
- PESTLE:** Political Economic Social Technological Legal And Environmental
- SWOT:** Strengths, Weaknesses, Opportunities, and Threats
- ERP:** Enterprise Resources Planning
- ISO:** The International Organization for Standardization

# **General introduction**

## **General Introduction**

### **Statement of the problem:**

Nowadays businesses operate in fast, competitive and ever-changing environment, their success is based on the ability to adapt to the environmental changes, to fulfill organizational objectives and to manage risks as the business landscape evolves every day.

One of the best defenses against business failure, as well as an important driver of business performance, is having an effective internal control system, which manages risk and enables the creation and preservation of value. Successful organizations know how to take advantage of opportunities and counter threats, in many instances through effective application of controls, and therefore improve their performance.

Internal control is a topic that is truly at the heat of many professional accountants in business, not just because internal control is an integral part of good management, but also because of the lack of it, which has been cited by many as one of the key reasons for most corporate failures.

Internal control ensures effectiveness and efficiency of operations, reliability of financial reporting and compliance with applicable laws and regulations to which the company is subject. A sound internal control system helps the company to prevent risks. The increase of business units has encouraged the use of internal control as it ensures orderly and efficient conduct of business including adherence to internal policies.

Risk-taking is an inherent trait of any enterprise. There can be no growth or creation of value in a company without risk-taking. However, if risks are not properly managed and controlled, they can affect the company's ability to attain its objectives. The aim of internal control is to help to provide a reasonable level of assurance that a company will meet the agreed objectives and goals. It has a key role in the management of risks that are significant to the fulfilment of business objectives. Risk management and internal control systems play a key role in directing and guiding the company's various activities by continually preventing and managing risks.

Risk management is a planned and a structured process aimed at helping the project team to make the right decision at the right time to identify, classify, quantify the risks and then to manage and control them. The aim is to ensure the best value for the project in terms of cost, time and quality by balancing the input to manage the risks with the benefits from such act.

### **Problematic research:**

- ✓ **The main issue of the research is:**

**What is the role and the Importance of the Internal control system In risk management In Maghreb PIPE company?**

In order to address the problem raised, the following sub-questions were asked

- ✓ **Sub-questions:**

- Is Maghreb Pipe Company aware about the importance of the internal control system?
- What is the relationship between the internal control system and risk management?
- Does the internal control system that is implemented in Maghreb Pipe company influences risk management?
- To what extent is the case company is committed to implement its internal control system to reduce risks?

### **Research Hypothesis:**

- Yes, the Maghreb Pipe Company is aware about the importance of the internal control system.
- There is an integral relationship between the internal control system and risk management.
- Yes, the implementation of internal control system in Maghreb Pipe Company influences risks.
- The company is committed to an acceptable extent to implement an internal control system to reduce risks.

### **Purpose of the study:**

The main aim of this dissertation is to present internal control concepts, based on a real example. Appropriate interpretation and implementation of those concepts are vital for the companies. In addition to that, identify and analyses the roles of internal control system in risks management in the organization and underline the impact of their overlap roles on risk management from a risk management perspective.

**Importance of the study:**

- 1- To clarify the relationship between control management and risks management.
- 2- To highlight the role of the internal control system in the company.
- 3- To determine the characteristics of an effective Internal Control System.
- 4- To make a comparison between the theoretical part and the practice in real life of the Internal Control System in risks management.

**Reasons of the study:**

The subject of the study has been chosen for the following reasons:

Personal reasons:

There are personal inclinations and a desire to study the subject for its close relationship to the specialty, also trying to address the obscure parts that we found difficult in the academic path.

As for the objective reasons, they are:

Our interest in risk management, and the desire to access methods or plans to find out what went wrong before it happens.

The internal control system is a preventive means that reduces the possibility of making mistakes, facing threats and seizing opportunities.

**Limitation of the study:**

This study is limited by the time and place constraints. Additionally, as the dissertation analyses a real life example of only one case company, the study is also limited by confidentiality needs of the case company.

✓ Space limitations:

The space limitations of the study are represented by the Maghreb Pipe Company for the manufacture of glass tubes in the Wilaya of M'sila.

✓ Time limitations:

The study time limits are represented in the distribution of an interviews conducted during the year 2021, from 15 May to 09 June.

### Literature review:

In order to verify the study, we will base on the following group of English and Arabic studies.

Tatiana Danescu, Mihaela Prozan, Andreea Cristina danescu (2012)	
Study title	The role of the risk management and of the activities of internal control in supplying useful information through the accounting and fiscal reports.
Study type	Scientific Article
Review title	Emerging Markets Queries in Finance and Business
Study purpose	The study focused on the Internal decision making process that could manage the risks, which could affect the information from the fiscal and accounting reports.
Main results	The study found that there is a lack of knowledge, not implementing or an erroneous implementation of the accounting policies and procedures of the fiscal norms, the lack of an adequate internal control, the erroneous implementation of the internal control activities as a response to the risks that affect the entities. And those results effect on the accounting and fiscal information.
Divergence Points	The study tended to clarify the role of risk management process and Internal control activities in reducing risks of misleading accounting and fiscal reports.
Convergence Points	The similarity lies in studying the same independent variable which is Internal control system.
Study benefit	The study helps us to realize the importance of the Internal control system and risk management process for a company.

Elvir Munirovich AKHMETSHIN, Vladimir Lvovich VASILEV and others (2019)	
Study title	Improving Management Functions at an Enterprise Levels of the Internal Control System
Study type	Scientific article
Review title	Quality access to success
Study purpose	The purpose of the study is summarizing the area of economic activity of an enterprise that need to be controlled and offering the most optimal set of factors to ensure effective control in the enterprise management.
Main results	Control procedures are carried out when performing various management functions which are: risk management by using the international management standards COSO, quality management by using quality management standards ISO, innovation management, and

	personal management. The control system with regard to international quality standards, control should be the responsibility of management and executives, be present at all stages of the product life cycle, ensure effective resource management.
Divergence points	The study linked the Internal control system with all management functions.
Convergence Points	Meanwhile this dissertation linked the internal control system with one of management functions wish is risk management.
Study benefit	The study gives us the internal control system role in life of an enterprise.

Rida mash'al (2012)	
Study title	Internal Audit Roles in Risk Management from Risk Management Perspective: New Vision
Study type	Master thesis
Study purpose	This study aimed to reveal the role of internal audit in risk management therefore the internal control system too.
Main results	The study findings confirmed the negative impact of the misplacement roles of internal auditors in risk management, and finds that risk managers are not concerned with this issue much.
Divergence points	The study dealt with the role of internal audit in risk management and its impact on the good performance of the internal control system, While our study focused on the role of internal control system in risk management so the difference lies in the independent variable.
Convergence points	The study has the same dependent variable risk management.
Study benefit	The study consider that internal auditors overlapping roles in risk management leads to the impairment of the objectivity of their engagements, and negatively impacts risk management, as well as the internal control systems in organizations.

Ali Kadhim Hussein Al-Fatlawi, (2018)	
Study title	The Role Of Internal Auditing And Internal Control System On The Financial Performance Quality In Banking Sector
Study type	Scientific article
Study purpose	This empirical study examines and analyzes the influence of internal audit and internal control systems on the prevention of accounting fraud in banking sector.
Main results	The results of the empirical study are internal audit had a positive significant influence on the prevention of accounting fraud in banking

	sector, internal control system had a positive significant influence on the prevention of accounting fraud in banking sector.
Divergence points	The difference in the dependent variable between the study and our thesis.
Convergence points	The research is similar in studying the role of internal control system.

BENSON MUGI MUHUNYO, (2018)	
Study title	Effect of Internal control system on financial performance of public institutions of higher learning in Nairobi city county Kenya.
Study type	Master thesis
Study purpose	The main objective of the study was to determine the effect of control activities, risk assessment, control environment, information and communication and monitoring on financial performance of institutions of higher learning in Nairobi City County.
Main results	The study realized that the control environment, risk assessment, control activities and information and communication as indicators of internal control systems have a significant influence on the financial performance of the institutions of higher learning in Nairobi City County, Kenya. The variables explained 99.1% of the changes in financial performance of the institutions.
Divergence points	The study applied in public institution of higher learning, while this thesis applied in economic company.
Convergence points	Studying the role of the same independent variable ‘ Internal control system’

Shuhai Li, Muhammad Nadeem, (2010)	
Study title	Risk management and Internal control – a case study of China aviation oil corporation ltd-
Study type	Master thesis
Study purpose	The objective of this thesis is to identify the role and importance of internal control system in good risk management practice with a particular emphasis on management structure and reporting system and in general with Principles of Corporate Governance and Risk Management on the China Aviation Oil Corporation.
Main results	the risk management policy of the company must be determined at the highest level in the organization by Senior management be responsible for the policies to be incorporated into daily operations and to dedicate the necessary resources to achieve this, and set up a risk management department

الطيب سايج, عز الدين بن تركي, (2015)	
Study title	Contributions of the internal control system in supporting the control management of banking operations in leading the operational risks of the banking institution - A case study of the Algerian banking legislation -
Study type	Scientific article
Journal title	Human Sciences journal
Study purpose	This article aims to examine the state of operational risk and make contributions the internal control system is one of the most important of these control mechanisms and control of this category of risk, along with presentation and analysis the reality of banks in Algeria, by addressing the most important organizations Legislative issued in this regard.
Main results	Banks and financial institutions in Algeria pursue a system of internal control with basic axes, which interact with each other in order to ensure respect for internal regulations and procedures, credibility and reliability in accounting information, control of risks, and this is based on a number of means and measures, the most important of which are: continuous or permanent monitoring, periodic monitoring, And the separation between jobs and their independence.
Divergence points	The study identified the type of risk considered, which is the operational risk, and it was implemented in a banking institution.
Convergence points	The study elucidated the role of Internal control system and the efficiency and effectiveness of its application.

منى يحيى الشريف, محمود سحنون, (2018)	
Study title	The role of internal control as a bank management control tool in risk reduction at General society of Algeria.
Study type	Scientific article
Journal title	Human sciences journal – university Oum El Bouaghi
Study purpose	The aim of this study is to define internal control as one of the management control tools and to show their importance in the management of the bank especially with regard to the - minimization of risks. By targeting the general management of Society General Bank of Algeria.
Main results	The results of the study consisted in answering the sub-questions and confirming the assumptions, as it concluded that the internal control is concerned with two types of risks, operational and credit risk, in addition to that. The bank should pay more attention to training its employees, each according to the position they occupy, in order to achieve good performance.
Divergence	Taking the internal control as a necessary tool in bank, case study at

points	General society of Algeria.
Convergence points	Searching the same purpose the role of internal control to reduce risk management.

بربري محمد أمين, كريفار مراد, (2017)	
Study title	The role and importance of the internal control system in reducing the phenomenon of financial corruption Case study of Algeria
Study type	Scientific article
Journal title	Journal of North African Economics
Study purpose	The study aims to reduce financial corruption in institutions by using an internal control system.
Main results	The study founded that the Internal control is an effective system in diagnosing defects in the work of the administration, especially with regard to the financial aspect.
Divergence points	Linking the study to another dependent variable "financial corruption"
Convergence points	The same independent variable and clarification the role of Internal control system in reducing risks.

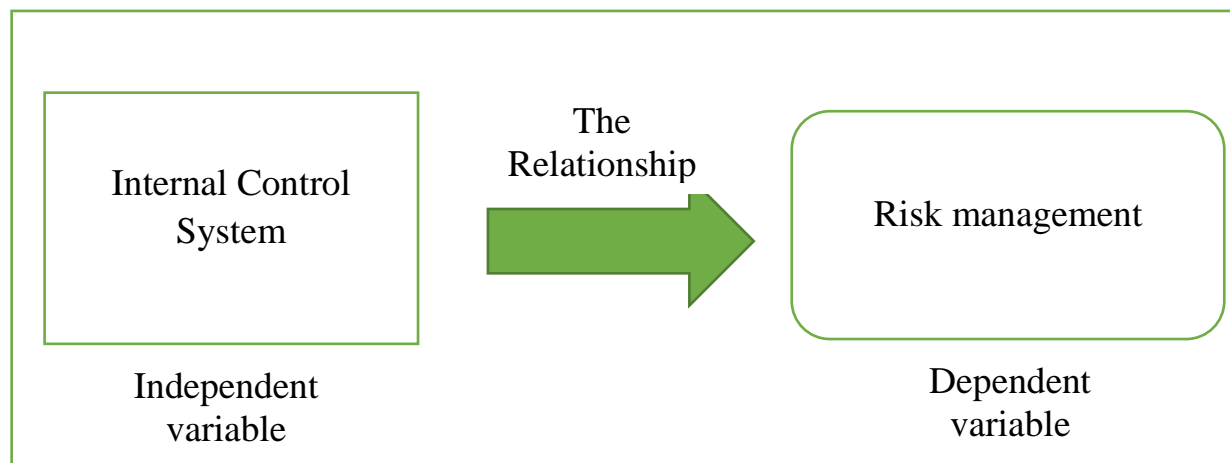
### Methodology:

The study applied the descriptive, comparative and research methods, where secondary data (theoretical research part) and primary data were collected by interviews and direct notes and observations to achieve the study aim and objectives.

### Structure of the Dissertation:

This study is divided into two chapters. The first one consists of a review of literature which contains two parts. The former part deals with the internal control system, and the latter addresses the risk management process. The second chapter presents the case of the Maghreb Pipe industry company.

The figure below represents the dissertation framework based on:



# **Chapter One**

## **Theoretical Framework**

## Chapter one

### Theoretical framework

<b>1</b>	<b>Internal control system</b>
<b>1-1</b>	-Introduction
<b>1-2</b>	-Internal control system definition
<b>1-3</b>	-Internal control system objectives
<b>1-4</b>	-Internal control types
<b>1-5</b>	-Internal control system components and basics
<b>1-6</b>	-Internal control system limits
<b>1-7</b>	-The importance of internal control system
<b>1-8</b>	-The organization's report on internal control performance
<b>2</b>	<b>Risk management process</b>
<b>2-1</b>	-Introduction
<b>2-2</b>	-Risk management definition
<b>2-3</b>	-Risk management principles
<b>2-4</b>	-Risk management objectives
<b>2-5</b>	-Risk management components
<b>2-6</b>	-Risk Management standards
<b>2-7</b>	-The relation between internal control system, risk management and governance
<b>3</b>	<b>Conclusion</b>

## 1. Internal control system

### 1.1. Introduction

With the best of intentions, most people make mistakes. The mistakes may be errors in the end results of their work; needless inefficiencies in achieving those end results, or both. And sometimes without the best of intentions a few people deliberately falsify. Any organization wishing to conduct its business in an orderly and efficient manner and to produce reliable financial information both for its own and for others, needs some controls to minimize the effects of these endemic human failings. When such controls are implemented within the organization's systems they are described as *internal control*.

Internal controls are basically systems of checks and balances. The purpose is to keep the organization moving along the desired lines as per the wishes of the owners and to protect assets of the business. Internal controls have received attention from auditors, managers, accountants, fraud examiners, and legislatures. As such, the sophistication, scope, and interpretations of internal controls have evolved over the years, As such; the complexity, scope, and interpretations of internal controls have evolved over the years until reaching an integrated system of internal control, which we will address in this chapter in the theoretical framework of the internal control system in the institution.

## 1.2. Internal control system definition

### ➤ the conception of internal control

Internal control is a multidimensional concept and has been discussed in many ways in the management control literature, it is not solely a procedure or policy that is performed at a certain point in time. Relatively, it is a continually operating, integrated system at all levels within an organization.<sup>1</sup>

Historical development of internal control as individual enterprise system is not as broad as other management spheres in science directions. The definition of internal control was presented for the first time in 1949 by the American Institute of Certified Accountants (AICPA). It defined internal control as a plan and other coordinated means and ways by the enterprise to keep safe its assets, check the correctness and reliability of data, to increase its effectiveness and to ensure the settled management politics. However, the presented definition of control concept has been constantly improved, and nowadays there is quite an extensive set of conceptions that indicates the system of internal control as one of the means of leadership to ensure safety of enterprise assets and its regular development. In 1992, the COSO model appeared, its analysis distinguished the concepts of risk and internal control. Now, the concept of internal control involved not only accounting mistakes and implementing means of their prevention, but also a modern attitude that might identify the spheres of control management and processes, and also a motivated development of their detailed analysis. The Worldwide known collapses of such companies as Enron, WorldCom, Ahold, Parmalat and others determined to issue in 2002 the Law of Sarbanes–Oxley in the USA, in which attention is focused on the effectiveness of the enterprise internal control system and its assessment. Such a significant law as that 147 of Sarbanes–Oxley has clearly show that not only the internal control system must be concretized and clearly defined, but also the means of implementing the internal control system and assessing their effectiveness must be covered<sup>2</sup>.

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<sup>1</sup> M. Azizal Abd Aziz, et al: Enhancement of the Accountability of Public Sectors through Integrity System, Internal Control System and Leadership Practices: A Review Study, 7th International Conference on Financial Criminology, Wadham College, Oxford, United Kingdom, *Procedia Economics and Finance journal*, Vol 28, 169-196, 2015, p 166.

<sup>2</sup> V. Lakis & L. Giriūnas: the concept of internal control system theoretical aspect, Faculty of Economics, Department of Management, Vilnius University, Lithuania, *EKONOMIKA journal*, Vol 91, N° 2, ISSN 1392 – 1258, 2012, page 144.

➤ Definition of control:

There are different interpretations of control<sup>1</sup>:

K.A. Merchant, 2011	{	Control is a comparison of planned (required) and actual states.
F.R. Jacobs et al, 2011	{	Control is a summation of accepted decisions or rights established by state or company for particular subjects.
A. Kathus, 1997	{	Control is defined as observation, supervision of specific processes in social system (state, society, institutions, departments, collectives, etc.), development of established result, comparison and assessment based on settled goals, normative acts and standards.
E. Buskeviciute, 2008	{	Control is defined as inspection of obeying responsibilities of established decisions or state requirements for specific subjects.
C. Drury, 2012	{	Control is a connection net through which the performance of an enterprise is controlled to ensure its right actions in the future.
R. Biciulaitis, 2011	{	Control is means to provide possibilities to avoid or identify and fix disorders that might disrupt the system.
K. A. Merchant, 2011	{	Control is skills and possibilities to regulate.
N. B Macintosh, 2010	{	Control is a function which ensures an effective working of the system or creates the desirable profit.
K. H. S. Pickett, 2010	{	Control is a process started by specific settled standards and finished by their successful implementation and further improvement and prevention.
P. Gupta, 2010	{	Control is a financial and operation management of the enterprise aimed to achieve profit from its performance.

<sup>1</sup> Ibid, page 145.

Control strategies include<sup>1</sup>:

- Accepting the risk.
- Transferring the risk (e.g. passing it to another party by changing contractual terms).
- Elimination (by adopting an exit strategy).
- Control by building control into the operational process, additional quality control involving your best people in managing it.
- Sharing the risk with another party.
- Insuring against some or all of the risk.
- internal control system definition

There are many definitions of internal control. They entail different goals, values, and achievements that will be implemented in organizations. Therefore, it can be expected that the concept of internal control can be defined in various ways. It can be understood differently each time depending on situation:<sup>2</sup>

- ✓ Hightower defined internal controls as “program of activities established to catch and monitor a potential exposure that could result in a significant error, omission, misstatement, or a fraud”.
- ✓ “*Turnbull Report*” define internal control as follows:

“An internal control system encompasses the policies, processes, tasks, behaviors and other aspects of a company that taken together:

-facilitate its effective and efficient operation by enabling it to respond appropriately to significant business, operational, financial, compliance and other risks to achieving the company’s objectives. This includes the safeguarding of assets from inappropriate use of from loss and fraud, and ensuring that liabilities are identified and managed;

-help ensure the quality of internal and external reporting. This requires the maintenance of proper records and processes that generate a flow of timely, relevant and reliable information within and outside the organization.

-help ensure compliance with applicable laws and regulations, and also with internal policies with respect to the conduct of business.”

- ✓ Most common definition is by Committee of Sponsoring Organizations of the Treadway Commission (COSO<sup>3</sup>), it defined internal control as<sup>1</sup>:

<sup>1</sup> K.F. Edward Chow: Internal Control and Risk Management: a basic framework, Guide Task Force, Hong Kong Institute of Certified Public Accountants, June 2005, p32.

<sup>2</sup> V. Lakis & L. Giriunas: the concept of internal control system theoretical aspect, Op. Cit, pp.142-149.

<sup>3</sup> COSO: The committee is a joined initiative of five organizations which are American Accounting Association, the American Institute of Certified Public Accountants, Financial Executives International, Institute of Internal Auditors, and

“Process, effected by an entity’s board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting, and compliance”.

✓ “Internal control or an internal control system is the integration of the activities, plans, attitudes, policies, and efforts of the people of an organization working together to provide reasonable assurance that the organization will achieve its objectives and mission. This definition establishes that<sup>2</sup>:

- Internal control impacts every aspect of an organization: all of its people, processes and physical structures.
  - Internal control is a basic element that permeates an organization.
  - Internal control incorporates the qualities of good management.
  - Internal control is dependent upon people and will succeed or fail depending on the attention people give to it.
  - Internal control is effective when all of the people and the surrounding environment work together.
  - Internal control provides a level of comfort to an organization, controls do not guarantee success.
  - Internal control helps an organization achieve its objectives and mission.
- ✓ Internal control is defined as: <sup>3</sup> “a process effected by an entity’s board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting, and compliance”.

Definitions of well-known standards presented in the table below:

	<b>Definition</b>	<b>Components:</b>
ISACA	The policies, procedures, practices, and organizational structures are designed to provide reasonable assurance that business objectives will be achieved and that undesired events will prevented or detected and corrected.	-Planning and organization -Acquisition and implementation -Delivery and support -Monitoring
IIA Institute of	A system of internal controls is a set of processes, functions, activities, subsystems,	-Control environment -Manual and automated

the Institute of Management Accountants. It is dedicated to providing thought leadership through the development of frameworks and guidance on enterprise risk management, internal control and fraud deterrence.

<sup>1</sup> Internal control integrated framework: executive summary, 2013, available at:

<https://www.coso.org/Documents/990025P-Executive-Summary-final-may20.pdf> , p 3.

<sup>2</sup> Office of internal control: campus internal control handbook, state university of New York, New Paltz journal, <http://www.newpaltz.edu/internalcontrols/>, p2.

<sup>3</sup> Framework and Appendices, Internal Control Integrated Framework, September 2012, page 1.

Internal Auditors	and people who are grouped together or consciously segregated to ensure the effective achievement of objectives and goals.	systems -Control procedures -Focus: Information Technology
COSO	A process effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: • Effectiveness and efficiency of operations • Reliability of financial reporting • Compliance with applicable laws and Regulations	-Control environment -Risk management -Control activities -Information and communication -Monitoring Focus: Overall entity
AICPA Information Systems Audit and Control Association	A process effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: • Reliability of financial reporting • Effectiveness and efficiency of operations • Compliance with applicable laws and Regulations	-Control environment -Risk management -Control activities -Information and communication -Monitoring Focus: Financial Statements

*Table N° 1 : Well-known standards definitions*

Source: ASHUTOSH DESHMUKH: A conceptual framework for online internal controls, Journal of Information Technology Management, Pennsylvania State University, Erie, Vol 15, N 3-4, 1042-1319, 2004, p 24.

→ These definitions emphasize that the internal control system is<sup>1</sup>:

- Geared to the achievement of objectives in one or more separate but overlapping categories
- A process consisting of ongoing tasks and activities it is a means to an end, not an end in itself.
- Effected by people it is not merely about policy and procedure manuals, systems, and forms, but about people and the actions they take at every level of an organization to effect internal control.
- Able to provide reasonable assurance, not absolute assurance, to an entity's senior management and board of directors.

<sup>1</sup> Internal control integrated framework, Op. Cit, p 3.

- Adaptable to the entity structure flexible in application for the entire entity or for a particular subsidiary, division, operating unit, or business process.

A brief time set of internal control system definitions	
Author(s)	Internal control as a system
Simons (1995)	Incorporates “the formal information-based routines and procedures, which managers use to maintain or alter patterns, in organizational activities”.
Mackevičius (2001)	Encompasses policies, norms, rules and resources that enable the firm to effectively carry out processes and achieve its objectives.
Bičiulaitis (2001)	Coordinates efforts to manage and minimize the business environment’s risks.
DiNapoli (2007)	Connects performance, plans, attitudes, politics and human resources, enabling the achievement of objectives and mission.
Lakis (2007)	Aligns the firm’s strategies with desired performance to ensure appropriate and effective use of resources.
Pfister (2009)	Enables firms to avoid, identify and correct any potential discrepancy when information processing.
Shim (2011)	Allows the firm to detect errors and optimally mend them, monitor performance, protect assets, achieve objectives and ensure effectiveness.

*Table N° 2 : Other author’s definition*

Source: C. Atristain Suárez: Internal control system leading to family business performance in Mexico: a framework analysis, university Pan Americana, Journal of International Business Research, Volume 16, Issue 1, 2017, p6.

→ Procedural definition:

Based on what has been mentioned, we conclude that the internal control system is an integrated framework that includes: policies, procedures, functions, activities and the organizational structure to ensure that the objectives are effectively achieved, as well as avoiding risks and emphasizing their good management.

### 1.3. Internal control system objectives

Internal Control objectives are desired goals or conditions for a specific event cycle which, if achieved, minimize the potential that waste, loss, unauthorized use or misappropriation will occur. They are conditions which we want the system of internal control to satisfy. For a control objective to be effective compliance with it must be measurable and observable, these objectives as follows<sup>1</sup>:

- **Authorization**

The objective is to ensure that all transactions are approved by responsible personnel in accordance with specific or general authority before the transaction is recorded.

- **Completeness**

The objective is to ensure that no valid transactions have been omitted from the accounting records.

- **Accuracy**

The objective is to ensure that all valid transactions are accurate, consistent with the originating transaction data and information is recorded in a timely manner.

- **Validity**

The objective is to ensure that all recorded transactions fairly represent the economic events that actually occurred, are lawful in nature, and have been executed in accordance with management's general authorization.

- **Physical Safeguards & Security**

The objective is to ensure that access to physical assets and information systems are controlled and properly restricted to authorized personnel.

- **Error handling**

The objective is to ensure that errors detected at any stage of processing receive prompt corrective action and are reported to the appropriate level of management.

- **Segregation of Duties**

The objective is to ensure that duties are assigned to individuals in a manner that ensures that no one individual can control both the recording function and the procedures relative to processing the transaction.

A well designed process with appropriate internal controls should meet most, if not all of these control objectives.

The internal control objectives are the effectiveness and efficiency of operations which are concerned with basic business objectives, the reliability of financial reporting, and compliance with applicable laws and regulations. Consequently, these

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<sup>1</sup> N.K. Douglas: Internal control and its contributions to organizational efficiency and effectiveness: a case study of Eco bank Ghana limited, master thesis, Institute of Distance Learning, Kwame Nkrumah University of Science and Technology, 2011, pp 19-20.

objectives help entities to accomplish their profit and performance targets besides avoiding loss of resources (COSO, 1994).<sup>1</sup>

The Standard proposes three categories of objectives, which allows organizations to take into account different aspects of internal control<sup>2</sup>:

**Operational objectives:** they relate to the effectiveness and efficiency of operations. These relate in particular to operational and financial performance objectives, as well as asset safeguard.

**Reporting objectives:** they relate to internal and external, financial and extra-financial reporting. They can target reliability, timeliness, transparency or other requirements of regulators, recognized standards bodies or internal instructions.

**Compliance-related objectives:** they relate to compliance with applicable laws and regulations to the entity

Internal control is a means for achieving the organization's objectives and mission. That is its ultimate purpose. More specifically, as defined by the International Organization of Supreme Audit Institutions, there are four purposes of internal control<sup>3</sup>:

1. To promote orderly, economical, efficient and effective operations and to produce quality products and services consistent with the organization's mission;
2. To safeguard resources against loss due to waste, abuse, mismanagement, errors and fraud.
3. To ensure adherence to laws, regulations, contracts and management directives.
4. To develop and maintain reliable financial and management data, and to accurately present that data in timely report.

→ If an organization addresses each of these four purposes in developing its internal control system, the organization will most likely achieve its objectives and mission, failure to adequately address any one of these purposes may put the organization at risk. So if the organization ensures these four purposes it will lies in establishing a sound internal control system.

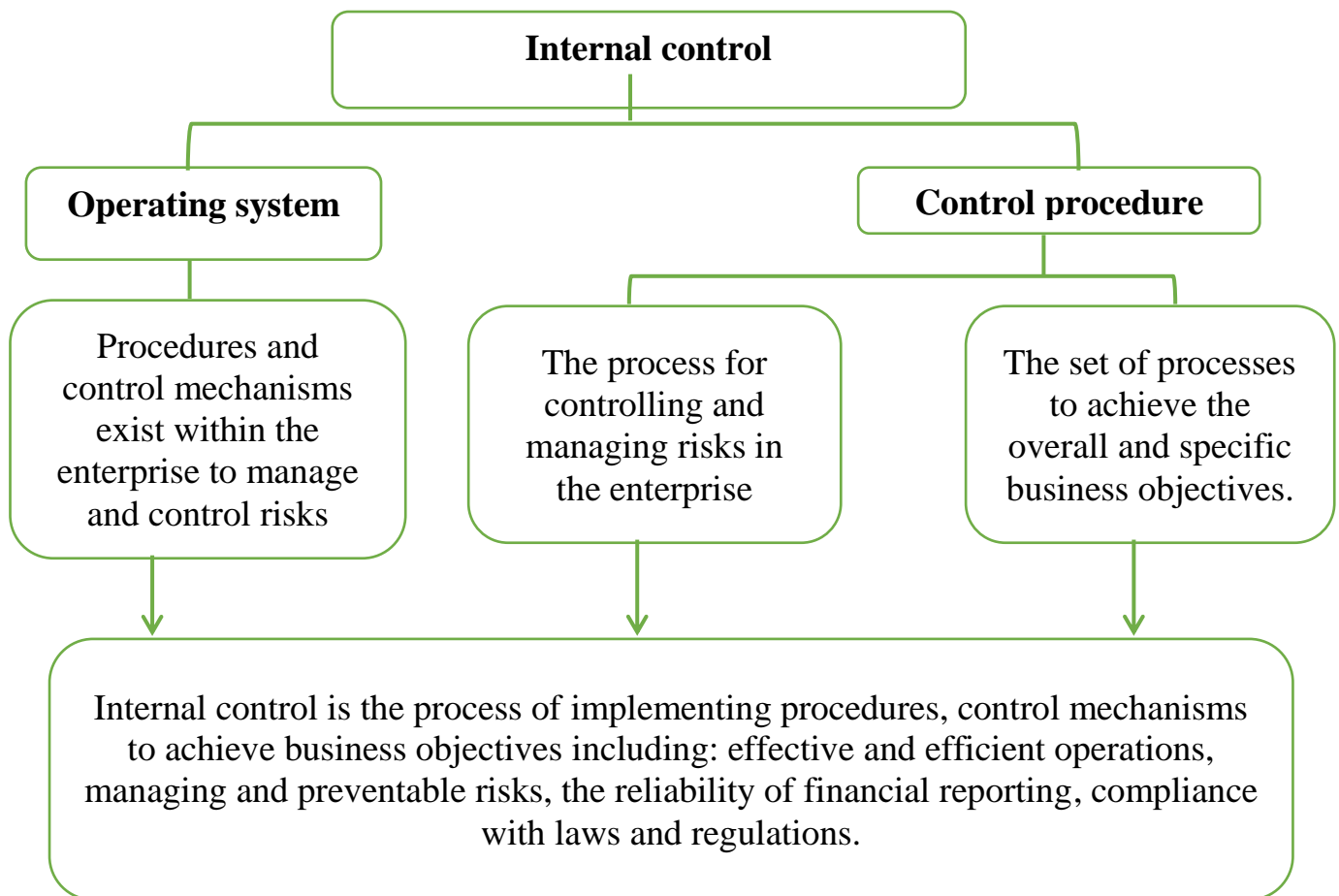
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<sup>1</sup> R.M Mash'al: Internal Audit Roles in Risk Management from Risk Management Perspective: New vision, Glasgow Caledonian university, department of law, economics, accounting and risk, Thesis for MSC in risk management, November 2012, p9.

<sup>2</sup> Référentiel intégré de control interne, IFACI. Indd 9, 2014, available at: <https://docs.ifaci.com/wp-content/uploads/2018/03/executive-summary-coso-def.pdf> , p 20.

<sup>3</sup> Office of internal control: campus internal control handbook, Op. Cit, p4.

The objectives of internal control are to assure corporate operations are economically effective, effectively control risks, protect assets, documents and accounting records, assure the information is reliable and comprehensive, comply with accounting regulations and report financial statements reliably, comply with laws, regulations and corporate policies. And the structure below summarizes the internal control system objectives<sup>1</sup>:



*Figure N° 1: The objectives of internal control system*

Source: by the student based on N.K. Douglas: Internal control and its contributions to organizational efficiency and effectiveness: a case study of Eco bank Ghana limited, master thesis, Institute of Distance Learning, Kwame Nkrumah University of Science and Technology, 2011.

<sup>1</sup> N. Tuan & D. Nguyen Hung: Studying the impact of internal control on performance and risks of Vietnam commercial banks, International Conference on Accounting, Aston university, research gate journal, Danang, Vietnam, 2015, available at: <https://www.researchgate.net/publication/308674648>, p4.

#### 1.4. Internal control system types

There are different types of internal control systems:

“Millichamp puts the types of internal controls as: Safeguarding assets, Separation of duties, supervision, Verification, Approval and authorization, Documentation, Safeguarding Assets, and Reporting”<sup>1</sup>.

“Many other authors such as Dr. Lousteau have agreed that the types of internal controls include directive controls, preventive controls, compensating controls, detective controls, and corrective actions”<sup>2</sup>, and each type of them have its special activities which help to implement it. These types are explained below<sup>3</sup>:

##### ❖ Directive Controls

Directive Controls relate to policies and put in place by top management to promote compliance with independence rules, to ensure compliance with directive controls, a clear, consistent message from management that policies and procedures are important must permeate the organization. They provide evidence that a loss has occurred but do not prevent a loss from occurring. Examples of detective controls are reviews, analyses, variance analyses, reconciliation, physical inventories, and audits. However, detective controls play critical role providing evidence that the preventive controls are functioning and preventing losses. Control activities include approvals, authorizations, verifications, reconciliation, and reviews of performance, security of assets, segregation of duties, and controls over information systems.

##### ❖ Preventive Controls

Preventive controls relate to measures taken by a firm to deter noncompliance with policies and procedures. They are proactive controls that help to prevent a loss. Examples of preventive controls are separation of duties, proper authorization, adequate documentation and physical control over assets.

##### ❖ Compensating Controls

Compensating controls are intended to make up for a lack of controls elsewhere in the system. For example, firms with an electronic database could maintain a hard copy of the client list in the office library. Such a list would compensate for downtime in electronic systems and difficulties in locating client names in an electronic system. While the list would have to be reprinted from time to time to add new clients would mitigate some of the obsolescence that exists with hard copies.

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<sup>1</sup> N.K. Douglas: Internal control and its contributions to organizational efficiency and effectiveness, Op .Cit, p 20.

<sup>2</sup> Ibid, p21.

<sup>3</sup> Ibid, pp 21-22.

### ❖ Detective Controls

Directive controls are aimed at uncovering problems after they have occurred. Although necessary in a good internal control system, detection of an independence violation after the fact is less desirable than prevention in the first place. Detective controls rarely work well as a deterrent in the absence of severe penalties.

#### ✚ Control tools:

Control activities are tools - both manual and automated - that help prevent or reduce the risks that can impede accomplishment of the organization's objectives and mission. Management should establish control activities to effectively and efficiently accomplish the organization's objectives and mission.

There are many control activities management can use to counter the risks that threaten an organization's success. Most of them can be grouped into four categories: directive, preventive, detective and corrective control activities, as follows<sup>1</sup>:

**Directive control activities** are designed to guide an organization toward its desired outcome. Most directive control activities take the form of laws, regulations, guidelines, policies and written procedures.

**Preventive control activities** are designed to deter the occurrence of an undesirable event. The development of these controls involves predicting potential problems before they occur and implementing ways to avoid them.

**Detective control activities** are designed to identify undesirable events that do occur, and alert management about what has happened. This enables management to take corrective action promptly.

**Corrective control activities** are processes that keep the focus on undesirable conditions until they are corrected. They may also help in setting up procedures to prevent recurrence of the undesirable condition.

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<sup>1</sup> B. Mahadeen, et al: Examining the Effect of the Organization's Internal Control System on Organizational Effectiveness: A Jordanian Empirical Study, International Journal of Business Administration, Vol 7, No 6, 1923-4007, 2016, p 27.

## 1.5. Internal control system components and basics

### 1- Internal control system components:

There are a number of key internal control frameworks, such as the COSO (USA), Turnbull (UK), and COCO (Canada), they described internal control as a “process” established, operated and monitored by those charged with the governance and management of a company, to provide reasonable assurance regarding the achievement of the company’s objectives.

#### ➤ Turnbull guidance

Internal Control Guidance for Directors on the Combined Code, commonly referred to as Turnbull guidance, was issued by the Institute of Chartered Accountants of England and Wales at the request of the London Stock Exchange to provide guidance to directors of listed companies in implementing the requirements relating to internal control. The Turnbull guidance views internal control as a system which encompasses the policies, processes, tasks, behaviors and other aspects of a company that, taken together<sup>1</sup>:

- Facilitate its effective and efficient operation by enabling it to respond appropriately to significant business, operational, financial, compliance and other risks to achieving the company’s objectives.
- Help ensure the quality of internal and external reporting.
- Help ensure compliance with applicable laws and regulations, as well as internal policies with respect to the conduct of business.

Turnbull strongly favors a principles-based approach in which, reflecting sound business practice, internal control is embedded in the organization’s business processes, whilst remaining relevant over time and through the organization’s changing circumstances.

It argues that internal control should be incorporated within the normal management and governance processes of an organization and not treated as a separate exercise undertaken to meet regulatory requirements.

Turnbull strongly emphasizes that the guidance is intended to enable application in a manner which takes account of each company’s particular circumstances. Turnbull further states that, “For the purposes of this guidance, internal controls considered by the board should include all types of controls including those of an operational and compliance nature, as well as internal financial controls.”

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<sup>1</sup> Professional Accountants in Business (PAIB): Internal Control -A review of Current developments- : information paper, International Federation of Accountants journal, New York, US, 2006, p 4.

Turnbull places responsibility for managing risk firmly at board level, requiring a company's board to take a risk-based approach to establishing a system of internal control. It also notes management's role in implementing board policies on internal control, and that all employees have some responsibility for internal control as part of their accountability for achieving objectives.

### ➤ COSO Internal Control Framework

COSO was organized in 1985 to sponsor the National Commission on Fraudulent Financial Reporting, an independent private-sector initiative that studied the causal factors that can lead to fraudulent financial reporting. It is also developed recommendations for public companies and their independent auditors, for the U.S. Securities and Exchange Commission (SEC) and other regulators, and for educational institutions. It is sponsored jointly by five major professional associations headquartered in the United States<sup>1</sup>:

- The American Accounting Association (AAA).
- The American Institute of Certified Public Accountants (AICPA).
- Financial Executives International (FEI).
- The Institute of Internal Auditors (IIA).
- The Institute of Management Accountants (IMA).

COSO framework had gone through several developments and stages. The most important of these stages can be summarized as follows:

### COSO I<sup>2</sup>:

In 1992, the Committee on Sponsoring Organizations of the Treadway Commission (COSO) developed a model for evaluating internal controls. This model has been adopted as a generally accepted framework for internal control and is widely recognized as the ultimate standard against which organizations measure the effectiveness of their internal control systems. It is designed to provide reasonable assurance of achievement of objectives in the following categories: -Effectiveness and efficiency of operations.

-Reliability of financial reports.

-Comply with applicable laws and regulations.

“The initial mission of COSO was to study financial reporting and develop recommendations to prevent fraud.

<sup>1</sup> The Updated COSO Internal Control Framework-Frequently Asked Questions- guide, Third Edition, Protiviti risk and business consulting internal audit firm, [www.protiviti.com](http://www.protiviti.com), April 2014, p6.

<sup>2</sup> Ibid

Its first “standard,” Internal Control – Integrated Framework, was released in 1992 and provided a comprehensive framework for helping organizations assess and improve their internal control systems. It went on to become extremely popular”<sup>1</sup>.



*Figure N° 2: COSO cube -1992.*

Source: *COSO’s integrated framework*, <https://cdn.savoir.fr/wp-content/uploads/sites/13/2011/11/COSO.jpg> .

## ✚ COSO II:

“In the years following its release, organizations soon began to realize there was a gap in the internal control framework. While it was helpful in reducing risks around fraudulent behavior and regulatory compliance, there was no way to identify and assess which risks the organization needed to put controls around. This recognition, plus demands for better corporate governance and risk management standards after Enron and similar scandals, led COSO to create its Enterprise Risk Management – Integrated Framework in 2004.

The 2004 COSO ERM framework focused more on what can be audited rather than identifying threats and opportunities, which is where the real value in ERM lies. The standard was a comfortable fit for organizations where risk was driven by audit”<sup>2</sup>.

<sup>1</sup> COSO ERM Framework - Background and Overview, <https://www.erm insightsbycarol.com/coso-erm-framework/>, 07/06/2021.

<sup>2</sup> Ibid.



Figure N° 3: COSO ERM cube- 2004

Source: <https://www.ariscommunity.com/system/files/editor/image/COSO%20ERM%20cube.png>

#### ✚ COSO III<sup>1</sup>:

In 2010, COSO decided to update the 1992 framework with a fresh look and engaged PricewaterhouseCoopers (PwC) to do the project. An Advisory Council was formed consisting of representatives from industry, academia, government agencies and not-for-profit organizations to provide input as the project progressed. Exposure drafts were issued to the public for comment and COSO received feedback in the form of responses to an online survey as well as public comment letters. Based on this input, COSO finalized the update, resulting in the New Framework COSO framework 2013.

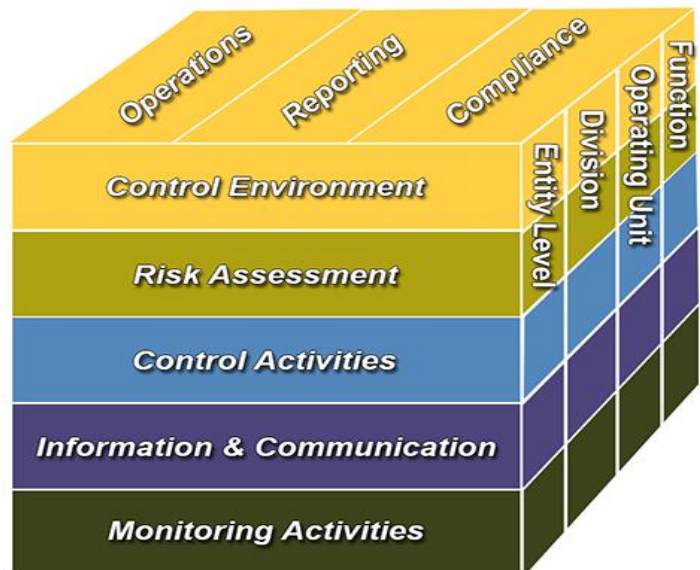


Figure N° 4: COSO cube – 2013

Source: [http://www.pda-usa.com/cf/coso\\_images.php](http://www.pda-usa.com/cf/coso_images.php)

<sup>1</sup> Ibid.

## COSO framework Components:

COSO Internal Control Components represented in five elements which are<sup>1</sup>:

### I. Internal Control Environment

The control environment is the foundation for an internal control system. It includes the overall attitude and actions of management regarding the importance of controls in their organization. Internal controls are likely to function well if management believes that those controls are important and communicates that view to employees at all levels. COSO's updated internal control framework identifies five principles associated with the control environment:

1. The oversight body and management should demonstrate a commitment to integrity and ethical values.
2. The oversight body should oversee the entity's internal control system.
3. Management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives.
4. Management should demonstrate a commitment to attract, develop, and retain competent individuals.
5. Management should evaluate performance and hold individuals accountable for their internal control responsibilities.

→ The implementation of these five principles is crucial to the implementation and operating effectiveness of the internal control environment.

### II. Risk Assessment

A risk is anything that endangers the achievement of an objective. The risk assessment process is used to identify, analyze, and manage the potential risks that could hinder or prevent an agency from achieving its objectives. Risk increases during a time of change, for example, turnover in personnel, rapid growth, or establishment of new services. Other potential high risk factors include complex programs or activities, cash receipts, direct third party beneficiaries, and prior problems. COSO's updated internal control framework identifies four principles associated with this internal control component:

6. Management should define objectives and risk tolerances.

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<sup>1</sup> Internal Control Guide & Resources Section 2: The Five Components of Effective Internal Controls Rhode Island Office of Internal Audit, available at: <http://www.omb.ri.gov/documents/control-guide/NEWInternalControlGuide-Section2FiveComponentsofInternalControl.pdf>, pp 1 to 4.

7. Management should identify, analyze, and respond to risks related to achieving the defined objectives.
8. Management should consider the potential for fraud when identifying, analyzing, and responding to risks
9. Management should identify, analyze, and respond to significant changes in the internal control system.

### III. Internal Control Activities

Internal control activities are nothing more than policies, procedures, and the organizational structure of an organization. Organizations establish policies and procedures so that identified risks do not prevent an organization from reaching its objectives. Clearly identified activities minimize risk and enhance effectiveness. Internal control activities can be either preventive, for example, requiring supervisory sign off, or detective, for example reconciling reports. Excessive controls should be avoided, as they can be as harmful as excessive risk and result in increased bureaucracy and reduced productivity. COSO's updated internal control framework identifies three principles associated with this internal control component:

10. Management should design control activities to achieve objectives and risk responses.
11. Management should design control activities for the entity's information system.
12. Management should implement control activities.

### IV. Information and Communication

Information must be reliable to be of use and it must be communicated to those who need it. For example, supervisors must communicate duties and responsibilities to the employees that report to them and employees must be able to alert management to potential problems. Information must be communicated both within the organization and externally to those outside, for example, vendors, recipients, and other applicable parties. Communication must also be ongoing both within and between various levels and activities of the agency. COSO's updated internal control framework identifies three principles associated with the information and communication component:

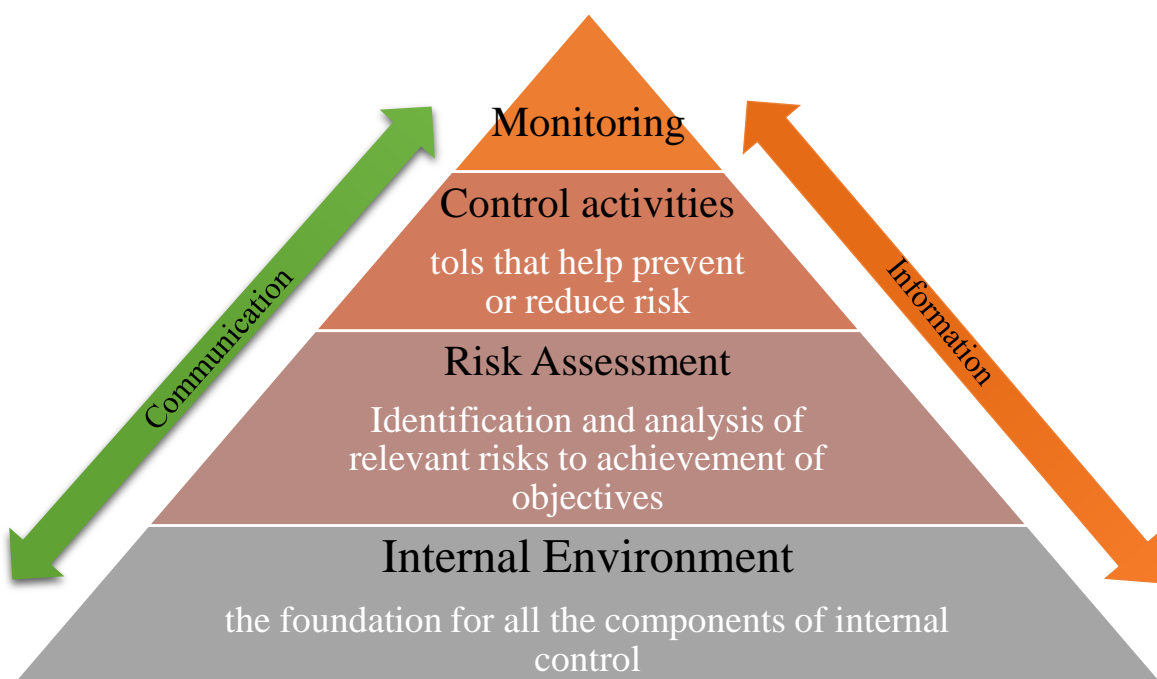
13. Management should use quality information.
14. Management should internally communicate the necessary quality information.
15. Management should externally communicate the necessary quality information.

## V. Monitoring

After internal controls are put in place, their effectiveness needs to be periodically monitored to ensure that controls continue to be adequate and continue to function properly. Management must also monitor previously identified problems to ensure that they are corrected. COSO's updated internal control framework identifies two principles associated with this internal control component:

16. Management should establish monitoring activities to monitor the internal control system and evaluate the results.

17. Management should ensure identified internal control deficiencies are remediated on a timely basis.

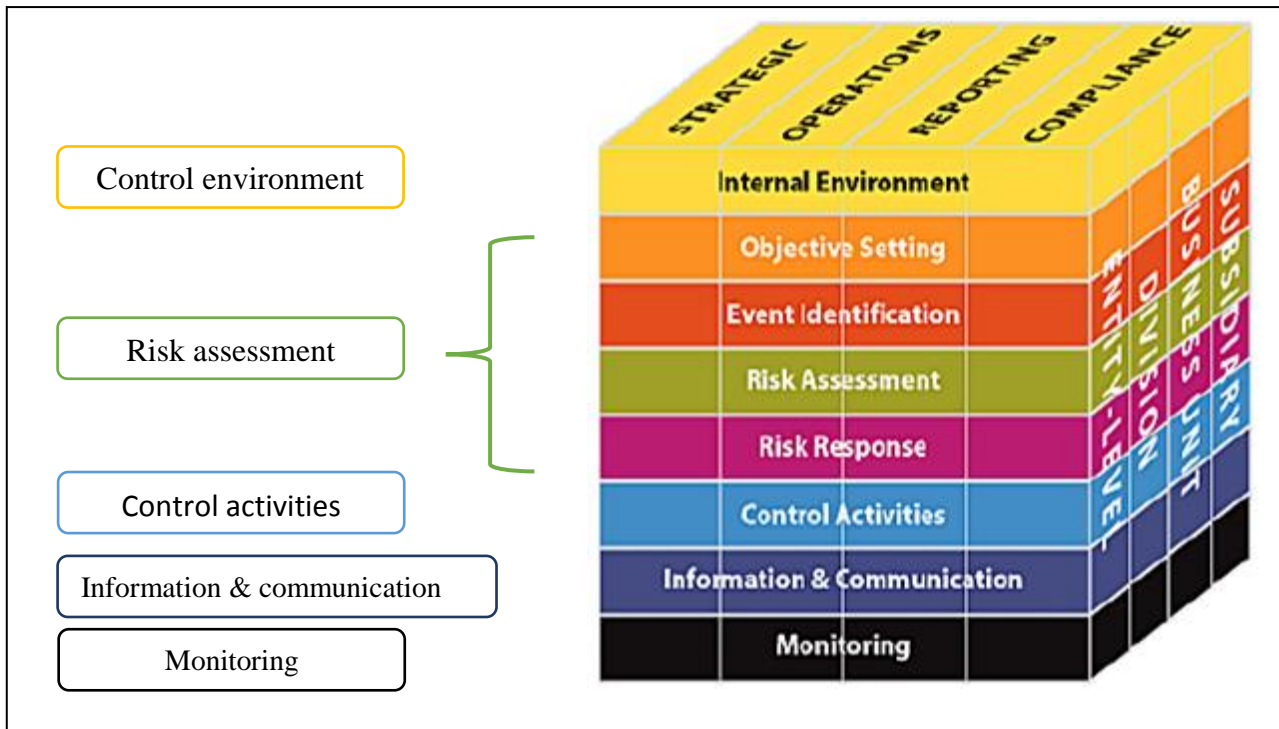


*Figure N° 5: Internal control components*

Source: by the student based on the previous information.

The internal control system is a dynamic and integrated process in which each of the five components described above impact the effectiveness of the other components. A relationship exists not only between the components, but also the objectives and the agency's organizational structure. COSO's depiction of this relationship is provided next page<sup>1</sup>:

<sup>1</sup> COSO's report entitled Enterprise Risk Management – Integrated Framework.



*Figure N° 6: COSO Cube*

*Source: by the student based on COSO's integrated framework*

➤ The COCO Model:

The Canadian Institute of Canada's Criteria of Control (COCO) report is a system of internal controls for financial reporting and internal management. COCO is an adaptation of COSO, which is the most widely adopted and accepted reference on control in the United States and internationally<sup>1</sup>.

COCO's internal control integrated framework includes four different aspects that include a purpose, commitment, capability, and monitoring and learning, it can be shown in the figure below<sup>2</sup>:

<sup>1</sup> FMCBC Recommended Practice: Enhancing Management Involvement with Internal Control, AMANS NSMFC FMCBC Recommended Practice, 2005, p 13.

<sup>2</sup> CA. Rajkuma: the internal control framework, <http://www.caaa.in/image/ic2011.pdf>, 20/05/2021, p 45.

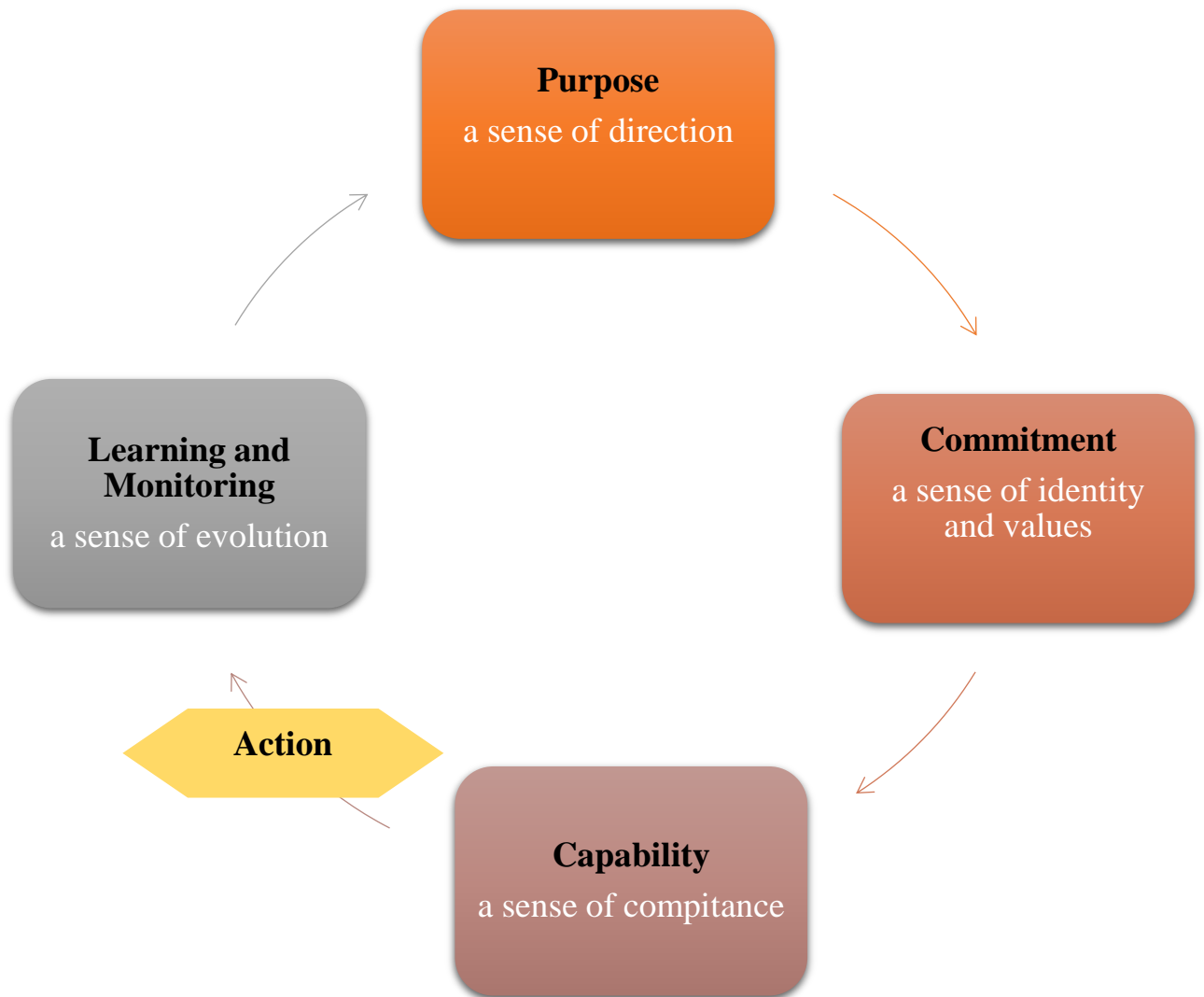


Figure N° 7: *The COCO Model*

*Source:* CA. Rajkumar & S. Adukia, <http://www.caaa.in/image/ic2011.pdf>, p45.

We can explain those components as follows<sup>1</sup>:

➤ **Purpose:**

This component of the internal control framework has separate components within itself. These components include objectives, risks and opportunities, policies, planning, and performance targets and indicators.

➤ **Commitment**

This component of COCO's internal control framework also has several subheadings that include ethical values and integrity, human resource policies, authority, responsibility, and accountability, and mutual trust.

➤ **Capability**

The component of capability within COCO's internal control framework also has several subheadings that include knowledge, skills, and tools, communication process, and information, coordination, and control activities.

➤ **Monitoring and Learning**

This component of the internal control framework has separate components within itself. These components include monitoring internal and external environments, monitoring performance, challenging assumptions, reassessing information needs and information systems, follow-up procedures, and assessing the effectiveness of control.

→ “As internal control frameworks, COSO, Turnbull and COCO complement each other. They each see internal control as a process/set of processes designed to facilitate and support the achievement of business objectives. Each of the frameworks takes the wider approach to internal control covering consideration of significant risks in operations, compliance and financial reporting. Objectives such as improving business effectiveness are included, as are compliance and reporting objectives. The narrow approach to internal control is usually restricted to internal control over financial reporting. Underlying each of the three frameworks is the fundamental principle that effective internal control is a process effected by people that supports the organization in several ways, enabling it to provide reasonable assurance regarding risk and to assist in the achievement of objectives. Fundamental to each of the frameworks is that internal control is an integral to the activities of the company, and not something practiced in remote corners”<sup>2</sup>.

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<sup>1</sup> FMCBC Recommended Practice, Op .Cit, pp 11.12.

<sup>2</sup> Internal Controls: A Review of Current Developments: Information Paper, Professional Accountants in Business, Committee International Federation of Accountants, New York, USA, 2006, available at: <https://www.ifac.org/system/files/publications/files/internal-controls-a-revie.pdf> , 19/05/2021, p 5.

## 2- Basics of an internal control system:

To achieve the objectives of internal control, there must be an effective and integrated internal control system based on the following elements<sup>1</sup>:

**Organizational plan:** It must be flexible to meet any future development of the organization, and be simple and clear so that all employees understand it.

**A sound accounting system:** It is characterized by simplicity and clarity in terms of stating the accounting and documentary cycle in a way that ensures the achievement of effective internal control during the stages that the documents go through.

**Separation of Responsibilities:** There should be a separation of employees' responsibilities to reduce the chances of fraud or the possibility of unintended errors in the financial statements.

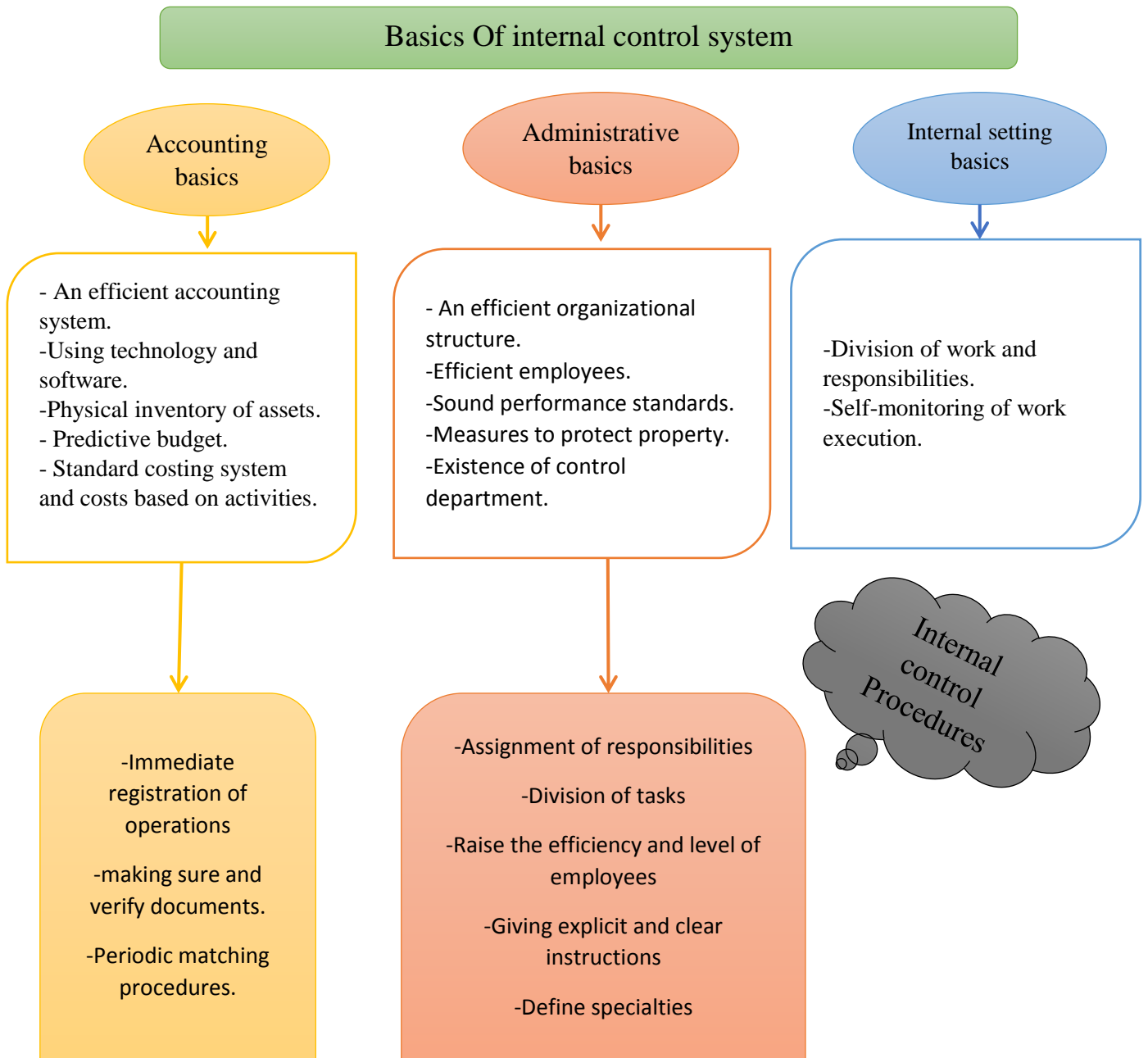
**Competent personnel:** The personnel handling the control system must be highly qualified.

**Performance auditing:** The planned and drawn performance levels must be adhered to, and if any deviation from these levels is found, they must be studied and the necessary procedures put in place to correct them.

**Internal Audit Department:** One of the requirements of a good internal control system is the existence of an internal audit department within the organization.

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<sup>1</sup> حاج قويدر قورين، ابو بكر الصديق قيداون، بن يوسف أحمد: دور نظام الرقابة الداخلية في الحد من المخاطر البنكية- دراسة حالة البنوك المعتمدة في الجزائر مع الإشارة للنماذج الدولية، الأكاديمية للدراسات الاجتماعية والإنسانية، المجلد 12 ، العدد 01 القسم أ، العلوم الاقتصادية والقانونية، 2019، ص 36.



*Figure N° 8: Basics of internal control system and their procedures  
Source: By the student based on previous information*

## 1.6 Internal control system limits

No matter how well internal controls are designed, they can only provide reasonable assurance that objectives have been achieved. Some limitations are inherent in all internal control systems, these include<sup>1</sup>:

- **Judgment**

The effectiveness of controls will be limited by decisions made with human judgment under pressures to conduct business based on the information at hand. Effective internal control may be limited by the realities of human judgment. Decisions are often made within a limited time frame, without the benefit of complete information, and under time pressures of conducting agency business. These judgment decisions may affect achievement of objectives, with or without good internal control. Internal control may become ineffective with management fails to minimize the occurrence of errors for example misunderstanding instructions, carelessness, distraction, fatigue, or mistakes.

- **Breakdowns**

Even well designed internal controls can break down. Employees sometimes misunderstand instructions or simply make mistakes. Errors may also result from new technology and the complexity of computerized information systems.

- **Management Override**

High level personnel may be able to override prescribed policies and procedures for personal gain or advantage. This should not be confused with management intervention, which represents management actions to depart from prescribed policies and procedures for legitimate purposes, management may override or disregard prescribed policies, procedures, and controls for improper purposes. Override practices include misrepresentations to state officials, staff from the central control agencies, auditors or others. Management override must not be confused with management intervention. Intervention may be required in order to process non-standard transactions that otherwise would be handled inappropriately by the internal control system. A provision for intervention is needed in all internal control systems since no system anticipates every condition.

- **Collusion**

Control systems can be circumvented by employee collusion. Individuals acting collectively can alter financial data or other management information in a manner that cannot be identified by control systems. The effectiveness of segregation of duties lies

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<sup>1</sup> N.D. Douglas, Op.Cit, pp 37,38.

in individuals' performing only their assigned tasks or in the performance of one person being checked by another. There is always a risk that collusion between individuals will destroy the effectiveness of segregation of duties. For example an individual received cash receipts from customer can collude with the one who records these receipts in the customers' records in order to steal cash from the entity.

### 1.7 The importance of internal control system:

The importance of the internal control system can be summarized in the following points<sup>1</sup>:

- Control of the institution and this by maintaining the continuity and managing its business in an orderly manner and ensuring the implementation of the programmed plans and the achievement of the established goals.
- Preserving the institution's assets and properties.
- Ensuring the quality of the information, by ensuring the correctness and reliability of the information recorded by reducing the occurrence of errors.
- Ensure that the instructions and directives of the administration are properly implemented, by ensuring that the specified policies and procedures, and the laws and regulations of the institution are respected.
- Ensuring the optimal and effective use of the organization's resources, in order to improve performance and effectively manage business.

### 1.8 The organization's report on internal control performance

The various internal and external stakeholders have a justified interest in the existence of the organization's risk management and internal control system, this interest is about<sup>2</sup>:

- The governing body, together with management, should periodically report to stakeholders the organization's risk profile as well as the structure and factual performance of the organization's internal evaluating and improving internal control in organizations control system.
- Organizations should transparently report on the structure and performance of their governance, risk management, and internal control system in their

<sup>1</sup>أفلة جعدي, ياسمين بن سنوس : تقييم نظام الرقابة الداخلية في إدارة المخزونات - دراسة حالة مؤسسة حضنة حليب-, مذكرة شهادة الماجستير، كلية العلوم الاقتصادية والتجارية وعلوم التسيير، قسم العلوم المالية والمحاسبة، تخصص تدقيق ومراقبة التسيير، 2017، ص 4.

<sup>2</sup> Evaluating and Improving Internal Control in Organizations, Professional Accountants in Business Committee International Good Practice Guidance, International federation of accountants (IFAC), 2012, pp 18, 19.

various reports to internal and external stakeholders, such as through their periodic accountability reports or on the organization's website.

- Organizations should report on the existence of about major risks that the organization faces, what controls it has established, how internal control is monitored and evaluated, and how the system works, and what has been done to remediate any control failures or weaknesses. A better understanding as to how an organization manages its risks creates trust and the necessary reassurance to its stakeholders.
- With respect to the scope and the depth of the reporting, organizations should assess the information various stakeholders need to make sufficiently informed decisions about the organization.
- Organizations should develop a mechanism to incorporate relevant feedback from the various stakeholders into their internal control system.

### Evaluating internal control system:

The following are the methods of evaluating internal control system<sup>1</sup>:

#### 1. Narrative Record or Memorandum Approach:

It is a complete and exhaustive description of the system. It is appropriate in circumstances where a formal control system is lacking, like in case of small businesses. Gaps in the control system are difficult to identify using a narrative record.

#### 2. Check List:

It is a series of instructions that a member of the audit staff is required to follow. They have to be signed initialed by the audit assistant as proof for having followed the instructions given. A specific statement is required for every weakness area.

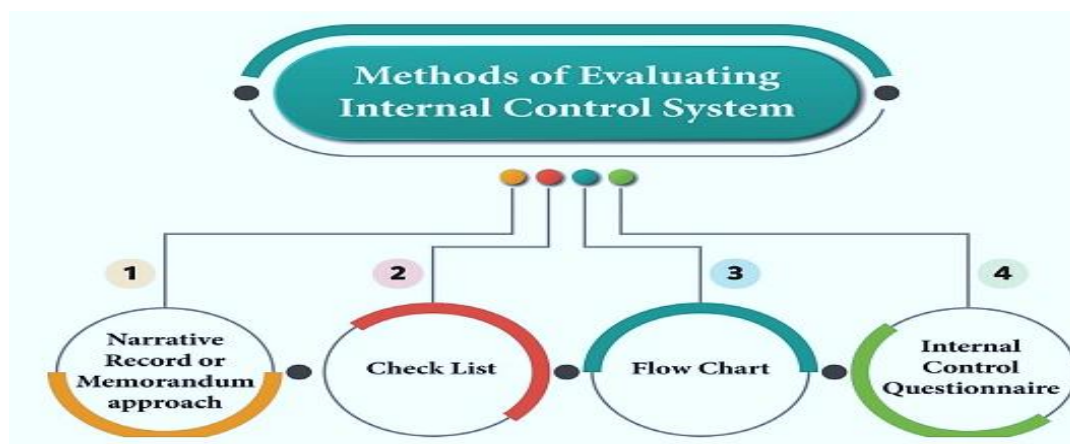


Figure N° 9: *Evaluating methods*

Source: Brain kart website, [www.brainkart.com](http://www.brainkart.com)

<sup>1</sup> Brain kart website, [https://www.brainkart.com/article/Methods-of-Evaluating-Internal-Control-System\\_37587/](https://www.brainkart.com/article/Methods-of-Evaluating-Internal-Control-System_37587/).

### 3. Flow Chart:

It is a pictorial representation of the internal control system depicting its various elements such as operations, processes and controls, which help in giving a concise and comprehensive view of the organization's working to the auditor. A complete flow chart would depict the process of raising documents, personnel involved in doing so, the flow of documents through various departments, maintenance of records, flow of goods and consideration, and dealing with results. The internal control evaluation process becomes easier through a flow chart as a broad picture of all the controls involved can be gauged in a glimpse.

#### 1. Internal Control Questionnaire:

This is the most widely used method for collecting information regarding the internal control system and involves asking questions to various people at different levels in the organization. The questionnaire is in a pre-designed format to ensure collection of complete and all relevant information. The questions are formed in a manner that would facilitate obtaining full information through answers in "Yes" or "No".

#### Effective internal control system:

An effective or good system of internal control should have the following principles<sup>1</sup>:

**1. Well-designed Accounting System:** Internal control should provide for a well-designed accounting system. The financial and accounting activities must be separated. For example, person who is responsible in handling cash (cashier) and the person who accounts cash (accountant) should be done by two different persons.

**2. Competent Personnel:** In any internal control system, personnel are the most important element. When the employees are competent and efficient in their assigned work, the internal control system can be worked and operated efficiently and effectively even if some of the other elements of the internal control system are absent.

**3. Division of Work:** This refers to the procedure of division of work properly among the employees of the organization. Each and every work of the organization should be divided in different stages and should be allocated to the employees in accordance with their skill and expertise.

**4. Separation of operational responsibility from record keeping:** If each department of an organization is being assigned to prepare its own records and reports, there may be a tendency to manipulate results for showing better performance. In

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<sup>1</sup> Ibid.

order to ensure reliable records and information, record-keeping function is separated from the operational responsibility of the concerned department.

**5. Separation of the custody of assets from accounting:** To protect against misuse of assets and their misappropriation, it is required that the custody of assets and their accounting should be done by separate persons. When a particular person performs both the functions, there is a chance of utilizing the organisation's assets for his personal interest and adjusting the records to relieve himself from the responsibility of the assets.

**6. Supervision:** Directors should review the company's financial operations and position at regular and frequent intervals. Comparison with results for previous periods indicates discrepancies that call for further examination. Where budgetary control is in use, attention will be drawn to material variances and explanations required. From time to time, special reviews of particular items such as stocks, or the operation of the wages department, should be undertaken.

**7. Sound Practice:** Sound practices of administration require that established procedures, policies and delegation of responsibility should be open to all employees of the organisation. This helps in avoiding questions, attempts to shift responsibility for unsatisfactory performance etc.

**8. Internal Audit:** Internal audit is a part of the whole system of internal control. It should operate independently of the internal check and in no circumstances; it should divert any one of responsibilities placed on him. It is the examination of accounts of a business concern by its employees specially appointed for the purpose. It is an independent appraisal of activity within an organization for the review of accounting, financial and other business practices.



Figure N° 10: Principles of an effective internal control system

Source: Brain kart website, [www.brainkart.com](http://www.brainkart.com)

## 2. Risk Management

### 2.1. Introduction

Opportunities cross our path by frequently, but people don't always see them. Taking risks grants you an invisible set of glasses that reveal the many opportunities which surrounds you. Therefore these risks must be controlled by a specific process known as "Risk Management".

In recent years all sectors of the economy have focused on management of risk as the key to making organizations successful in delivering their objectives whilst protecting the interests of their stakeholders. Risk is uncertainty of outcome, and good risk management allows an organization to have increased confidence in achieving its desired outcomes and effectively constrain threats to acceptable levels in addition to that take informed decisions about exploiting opportunities, good risk management also allows stakeholders to have increased confidence in the organization's corporate governance and ability to deliver.

Risk management is a more realistic term then safety, it implies that hazards are ever-presented, that they must be identified, analyzed, evaluated, and controlled or rationally accepted in precise plan.

All government organizations now have basic risk management processes in place. This means that the main risk management challenge does not now lie in the initial identification and analysis of risk and the development of the risk management process, but rather in the ongoing review and improvement of risk management.

## 2.2. Risk management definition

### ❖ Risk:

In order to manage risk, an organization needs to know what risks it faces, and to evaluate them. Identifying risks is the first step in building the organization's risk profile, so firstly we will give the definition of the term "risk":

Organization	Definition of risk
ISO Guide 73 ISO 31000	Effect of uncertainty on objectives. Note that an effect may be positive, negative, or a deviation from the expected. Also, risk is often described by an event, a change in circumstances or a consequence.
Institute of Risk Management (IRM)	Risk is the combination of the probability of an event and its consequence. Consequences can range from positive to negative.
Institute of Internal Auditors	The uncertainty of an event occurring that could have an impact on the achievement of the objectives. Risk is measured in terms of consequences and likelihood.
Alternative Definition by the author	Risk is everywhere and derives directly from unpredictability. The process of identifying, assessing and managing risks brings any business full circle back to its strategic objectives: for it will be clear that not everything can be controlled. However, they can include the creation of new and valuable opportunities.

*Table N° 3: definition of risk*

Source: P. Hopkin: Fundamentals of Risk Management Understanding: evaluating and implementing effective risk management, Kogan Page Limited publisher, London, UK, 2010, p 12.

- Risk is what makes it possible to make a profit. If there was no risk, there would be no return to the ability to successfully manage it. For each decision there is a risk-return trade-off. Anytime there is a possibility of loss (risk), there should also be an opportunity for profit<sup>1</sup>.
- COSO defines “risk appetite” as<sup>2</sup>: the amount of risk that an organization is willing to accept in pursuit of stakeholder value

<sup>1</sup> L. Crane & G. Gantz & S. Isaacs, at al: Introduction to risk management: understanding agricultural risks, extension risk management education and risk management agency, second edition, 2013, p2.

<sup>2</sup> COSO definition: Strengthening Enterprise Risk Management for Strategic Advantage, available at [www.COSO.org](http://www.COSO.org), p5.

- Risk is a condition in which there exists a quantifiable dispersion in the possible outcomes from any activity. It can be classified in a number of ways, it is an uncertain future event which could influence the achievement of the organization's strategic, operational and financial objectives<sup>1</sup>.
- "Risk is defined as this uncertainty of outcome, whether positive opportunity or negative threat of actions and events. The risk has to be assessed in respect of the combination of the likelihood of something happening, and the impact which arises if it does actually happen. Risk management includes identifying and assessing risks and then responding to them"<sup>2</sup>.

→ Risk is<sup>3</sup>:

- Uncertainty is precursor to risk.
- Risk is a consequence of uncertainty; risk can be financial, or reputational.
- The roles of Maximization of Value and Minimization of Losses form a continuum on which risk is anchored.
- One consequence of uncertainty is that actual outcomes may vary from what is expected and as such represents risk.

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<sup>1</sup> J. Harvey: Gateways series: introduction to managing risk, series 28, CIMA journal, London, UN Kingdom, available at: [www.cimaglobal.com](http://www.cimaglobal.com), 2008, p 3.

<sup>2</sup> The orange book: management of risk: principles and concepts, HM Treasury, crown copyright publisher, 2004, p 9.

<sup>3</sup> E. Baranoff & P.L. Brockett & Y. Kahane: Enterprise and individual risk management, V.1.0, 2012, p 22.

### ❖ Risk likelihood and magnitude

Risk likelihood and magnitude are best demonstrated using a risk map, sometimes referred to as a risk matrix. The basic style of risk map plots the likelihood of an event against the magnitude or impact should the event materialize.

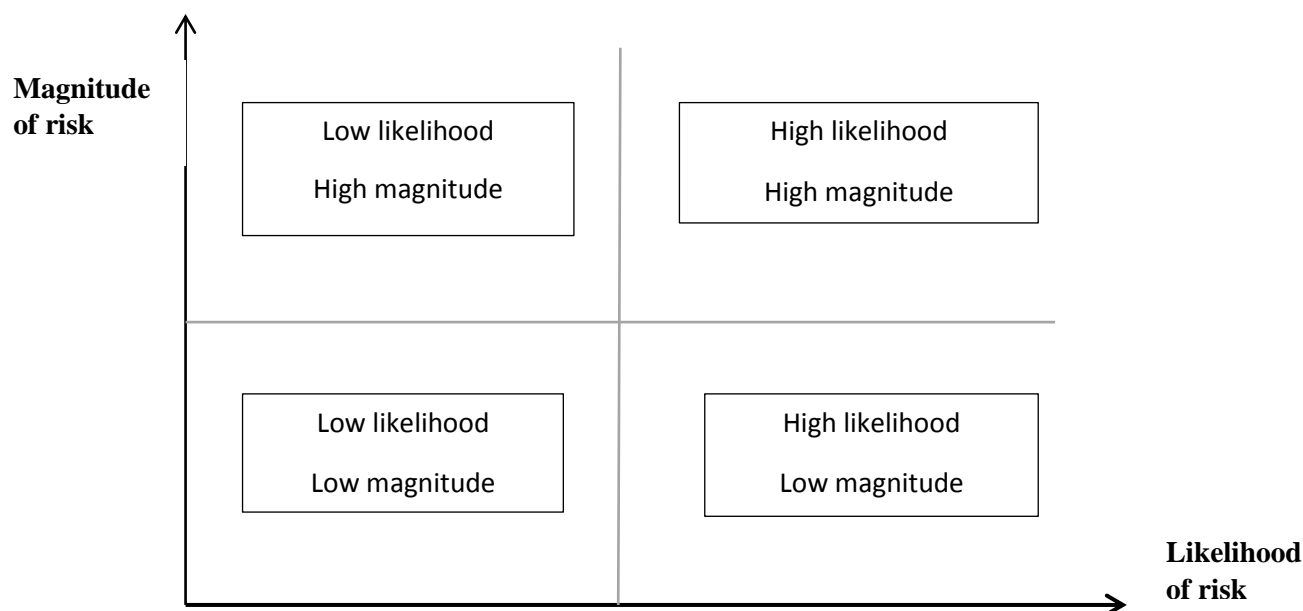


Figure N° 11: Risk likelihood and magnitude

*Source:* P. Hopkin: Fundamentals of Risk Management Understanding: evaluating and implementing effective risk management, Kogan Page Limited publisher, London, UK, 2010, p 12.

### ❖ Risk levels:

In every financial institution, risk management activities broadly take place simultaneously at following different hierarchy levels<sup>1</sup>:

1- Strategic level: It encompasses risk management functions performed by senior management. For instance definition of risks, ascertaining institutions risk appetite, formulating strategy and policies for managing risks and establish adequate systems and controls to ensure that overall risk remain within acceptable level and the reward compensate for the risk taken.

2- Macro Level: It encompasses risk management within a business area or across business lines. Generally the risk management activities performed by middle management or units devoted to risk reviews fall into this category.

3- Micro Level: It involves ‘On-the-line’ risk management where risks are actually created. This is the risk management activities performed by individuals who take risk

<sup>1</sup> Risk Management Guidelines for Commercial Banks & DFIs, available at <https://www.sbp.org.pk/about/riskmgm.pdf>, p2.

on organization's behalf such as front office and loan origination functions. The risk management in those areas is confined.

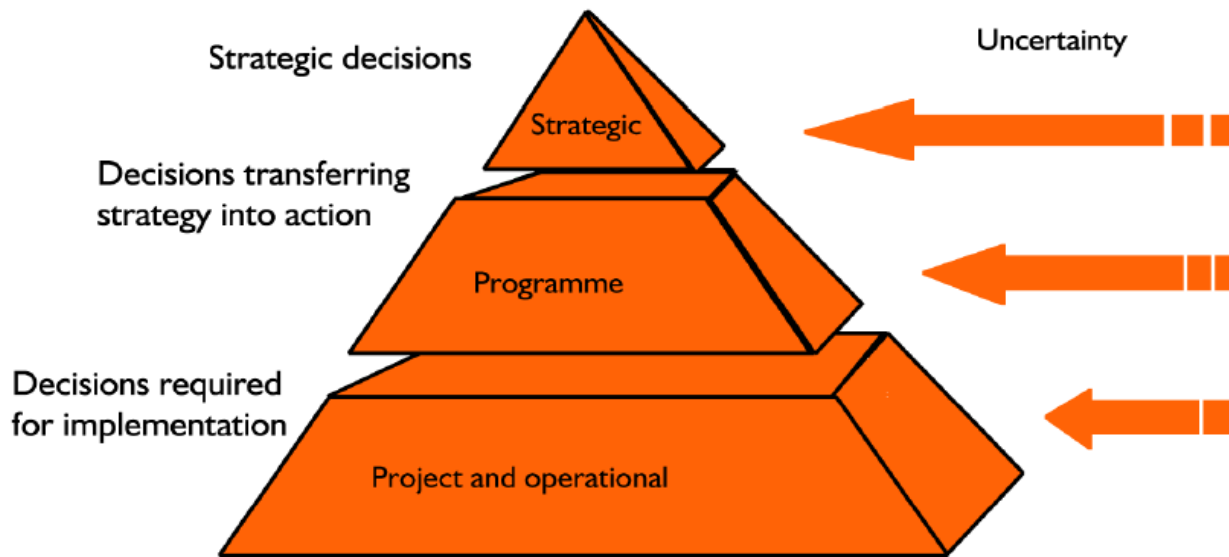


Figure N° 12: *Hierarchy of risk levels*

*Source:* The orange book: management of risk –principles and concepts-, HM Treasury, crown copyright, 2004.

#### ❖ Classification of risks :

Classification and definition of risks is furnished in table below:

Risk	Definition
Pure risk	A risk which has chance of loss or no loss. Example. A building may get affected by fire or not. These are best covered by insurance.
Speculative risk	Involves chance of gain/loss. Example. A builder may take a risk by promoting a new venture depending upon the prevailing conditions in the vicinity of proposed project, but it may bring him gain/loss.
Fundamental risk	These are external to a company and which if they materialize, would be on a large scale and cannot be prevented. These risks are associated with major natural, economic, political or social changes and generate large scale losses. Examples are: Floods, earthquakes, fluctuation of exchange rates, etc. This risk may or may not be insurable.
Particular risk	These are company specific risks and are identified within the parameters of a company and can be controlled during the implementation of a project, e.g. quality risks, safety risks, legal risks, etc.

*Table N° 4: Classification of risks*

*Source:* K. Srinivas: Process of Risk Management, book citation Index, Web of sciences, [www.intechopen.com](http://www.intechopen.com).

### ❖ Risk management

➤ Definition (1)<sup>1</sup>: Risk management is an integrated part of an entity's management system, effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to:

- Identify, understand, and assess potential risks and opportunities (and their interdependence) that may affect the entity.
- Manage those risks and opportunities to be within its risk appetite, so as to provide proper disclosure and reasonable assurance regarding the achievement of entity objectives.

Risk management also relates to generating ideas and promoting good practice, and is most effective when line managers:

- Embrace risk management it and use it as part of their management process.
- Provide their employees with a better understanding of the entity's risk appetite, to help manage risk across the organization.

➤ Definition (2)<sup>2</sup>: Risk Management is a discipline at the core of every financial institution and encompasses all the activities that affect its risk profile. It involves identification, measurement, monitoring and controlling risks to ensure that<sup>3</sup>:

- The individuals who take or manage risks clearly understand it.
- The organization's Risk exposure is within the limits established by Board of Directors.
- Risk taking Decisions are in line with the business strategy and objectives set by BOD. The expected payoffs compensate for the risks taken.
- Risk taking decisions are explicit and clear. Sufficient capital as a buffer is available to take risk.

➤ Definition (3)<sup>3</sup>: Risk management provides a framework for organizations to deal with and to react to uncertainty. Whilst it acknowledges that nothing in life is certain, the modern practice of risk management is a systematic and comprehensive approach, drawing on transferable tools and techniques. These basic principles are sector-independent and should improve business

<sup>1</sup> International Federation of Accountants : Global Survey on Risk Management and Internal Control Results, Analysis, and Proposed Next Steps, the Professional Accountants in Business Committee, available at [www.ifac.org](http://www.ifac.org) , 2011, p 9.

<sup>2</sup> Risk management: Guidance for Commercial Banks and Financial Development Institutions, available at: <https://www.sbp.org.pk/about/riskmgm.pdf> (19/05/2021), p 4.

<sup>3</sup> P. Hopkin, Op. Cit, p24.

resilience, increase predictability and contribute to improved returns. This is particularly important given the pace of change of life today.

- Definition (4)<sup>1</sup>: Risk management provides a framework for assessing opportunities for profit, as well as for gauging threats of loss. Without measuring risk, we cannot ascertain what action of the available alternatives the enterprise should take to optimize the risk-reward tradeoff. The risk-reward tradeoff is essentially a cost-benefit analysis taking uncertainty into account. In economic analysis terms, we want to know how many additional units of risk we need to take on in order to get an additional unit of reward or profit.
- Definition (5)<sup>2</sup>: Risk management involves a healthy dose of both common sense and strategic awareness, coupled with an intimate knowledge of the business, an enquiring mind and most critically superb communication and influencing skills.

Organization	Definition of risk management
IISO Guide 73 BS 31100	Coordinated activities to direct and control an organization with regard to risk.
Institute of Risk Management (IRM)	Process which aims to help organizations understand, evaluate and take action on all their risks with a view to increasing the probability of success and reducing the likelihood of failure.
HM Treasury	All the processes involved in identifying, assessing and judging risks, assigning ownership, taking actions to mitigate or anticipate them, and monitoring and reviewing progress.
London School of Economics	Selection of those risks a business should take and those which should be avoided or mitigated, followed by action to avoid or reduce risk.
Business Continuity Institute	Culture, processes and structures that are put in place to effectively manage potential opportunities and adverse effects.

*Table N° 5: Organization's definition*

Source: P. Hopkin: Fundamentals of Risk Management Understanding: evaluating and implementing effective risk management, Kogan Page Limited publisher, London, UK, 2010, p 37.

<sup>1</sup> E. Baranoff & P.L. Brockett & Y.Kahane, Op. Cit, p50.

<sup>2</sup> P. Hopkin, Op. Cit, P 24.

→ Procedural definition:

Risk management is an essential process of an organization that identifies, classifies, analyzes, assesses and monitors risks in order to avoid threats and seize opportunities so as to increasing the probability of success and reducing the likelihood of failure.

2.3.Risk management principles:

Risk management operates on a set of principles, and there have been several attempts to define these principles. British Standard BS 31100 sets out 11 risk management principles and the international standard ISO 31000 also includes a detailed list of the suggested principles of risk management. The following list is a consolidated version of these documents. It is suggested that a successful risk management initiative will be<sup>1</sup>:

- Proportionate to the level of risk within the organization.
- Aligned with other business activities.
- Comprehensive, systematic and structured.
- Embedded within business processes.
- Dynamic, iterative and responsive to change.

Principles of risk management presented into two separate lists: what is risk management should be, and what it should deliver, as listed below:

- Compliance with laws and regulations.
- Assurance regarding the management of significant risks.
- Decisions that pay full regard to risk considerations.
- Efficiency, Effectiveness and Efficacy in operations, projects and strategy.

Principle	Description
Proportionate	Risk management activities must be proportionate to the level of risk faced by the organization.
Aligned	Risk management activities need to be aligned with the other activities in the organization.
Comprehensive	In order to be fully effective, the risk management approach must be comprehensive.
Embedded	Risk management activities need to be

<sup>1</sup> P. Hopkin, Op .Cit, p46.

	embedded within the organization.
Dynamic	Risk management activities must be dynamic and responsive to emerging and changing risks.

*Table N° 6: Principles of risk management*

*Source:* P. Hopkin: Fundamentals of Risk Management Understanding, evaluating and implementing effective risk management, Kogan Page Limited, London, 2010, p47.

#### 2.4. Objectives of risk management:

Risk management is a lever for managing the company that helps<sup>1</sup>:

##### **a) Create and preserve the company's value, assets and reputation:**

Risk management is used to identify and analyses the main potential threats and opportunities for the company. The aim is to anticipate risks instead of submitting to them passively, thus preserving the company's value, assets and reputation.

##### **b) Secure decision-making and the company's processes to attain its objectives:**

Risk management aims to identify the main events and situations that could have a significant impact on the attainment of the company's objectives. Controlling these risks facilitates the attainment of these objectives.

Risk management is an integral part of the company's decision-making and operating processes. It is an oversight and decision-making aid.

Risk management gives managers an objective and comprehensive outlook on the company's potential threats and opportunities. It enables managers to take measured and informed risks and provides a basis for their decisions regarding the attribution of human and financial resources.

##### **c) Promote the consistency of the company's actions with its values:**

Many risks reflect a lack of consistency between the company's values and day-to-day decision-making and actions. These risks mainly threaten the company's credibility.

##### **d) Bring the company's employees together behind a shared vision of the main risks and raise awareness of the risks inherent in their activity.**

#### 2.5. Risk management components:

It is up to each company to create a risk management system that is appropriate to its specific circumstances. The risk management system includes<sup>2</sup>:

##### **1) An organizational framework with:**

- ✓ An organizational structure that defines roles and responsibilities sets out the procedures and clear and consistent standards for the system.

<sup>1</sup> O. Poupart-Lafarge: Risk management and internal control systems, published by AMF, available at: <https://www.amf-france.org>, p5.

<sup>2</sup> IBID, p6.

- ✓ a risk management policy that formally sets out the system objectives in accordance with the corporate culture, the common language, the approach to identifying, analyzing and managing risks and, as the case may be, the risk limits that the company sets (risk tolerance).
- ✓ An information system that disseminates risk information internally.

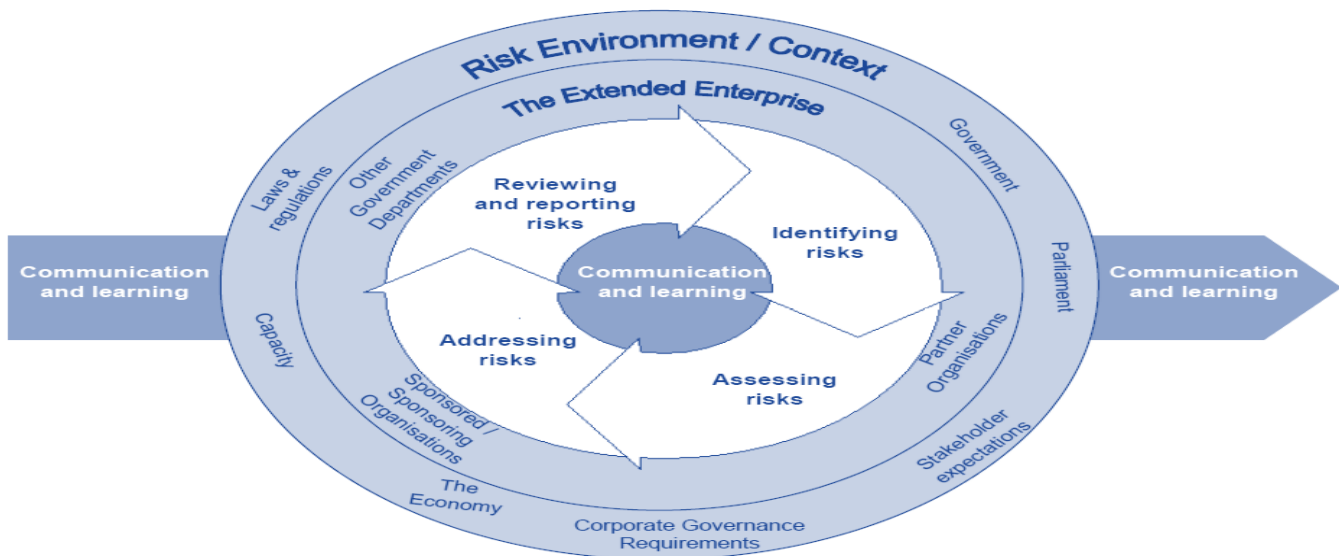
**2) A three-stage risk management process in the company's internal and external context:**

- ✓ Risk identification: this stage identifies and centralizes the main risks threatening the attainment of the company's objectives. A risk is a threat or a missed opportunity. It involves an event, one or more sources and one or more consequences. Risk identification is part of an ongoing approach.
- ✓ Risk analysis: in this stage, the potential financial, personal, legal and reputational consequences of the main risks are examined and the likelihood of their occurrence is assessed. This is an ongoing approach.
- ✓ Risk management procedures: in this stage, the most appropriate action plan or plans for the company are chosen. Several measures can be considered to maintain acceptable risk levels: reducing, transferring, eliminating or accepting a risk. The choice is made by weighing the opportunities against the cost of risk management measures, with due consideration of their potential effects on the occurrence and/or consequences of the risk.

**3) Ongoing oversight of the risk management system:**

- ✓ The risk management system is subject to supervision and periodic reviews. Monitoring the system contributes to ongoing improvements. The objective is to identify and analyse the main risks and to learn the lessons of risks that occurred.

## 2.6. Risk management process:

❖ Risk Management model<sup>1</sup>:

*Figure N° 13: Risk Management Model*

Source: The orange book: management of risk –principles and concepts-, HM Treasury, crown copyright, 2004.

It was developed from the model included in the November 2002 Strategy Unit Report: “Risks - Improving the Government's Capacity to Deal with Risk and Uncertainty”.

The management of risk is not a linear process, rather it is the balancing of a number of interwoven elements which interact with each other and which have to be in balance with each other if risk management is to be effective. Furthermore, specific risks cannot be addressed in isolation from each other, the management of one risk may have an impact on another, or management actions which are effective in controlling more than one risk simultaneously may be achievable.

The whole model has to function in an environment in which risk appetite has been defined. The concept of risk appetite (how much risk is tolerable and justifiable) can be regarded as an “overlay” across the whole of this model. The model presented here, by necessity, dissects the core risk management process into elements for illustrative purposes but in reality they blend together. In addition, the particular stage in the process which one may be at for any particular risk will not necessarily be the same for all risks.

<sup>1</sup> The orange book, Ibid, p13.

The model illustrates how the core risk management process is not isolated, but takes place in a context and how certain key inputs have to be given to the overall process in order to generate the outputs which will be desired from risk management.

❖ Risk management process:



*Figure N° 14: Risk management process*

Source: <https://www.pcwddd.com/definition/risk-management> .

1. Identification of risk

The identification of risk can be separated into two distinct phases. There is<sup>1</sup>:

- Initial risk identification (for an organization which has not previously identified its risks in a structured way, or for a new organization, or perhaps for a new project or activity within an organization).
- continuous risk identification which is necessary to identify new risks which did not previously arise, changes in existing risks, or risks which did exist ceasing to be relevant to the organization .

“Risk identification, the first step in the risk management process is usually informal and is performed in various ways, depending on the organization and the project team. Identification of risks relies mostly on past experience and study of similar executed projects”<sup>2</sup>.

→ Effective identification of risks is the first step to a successful risk management.

<sup>1</sup> The orange book, Ibid, p 15.

<sup>2</sup> K. Srinivas, Op. Cit, p6.

Parameter	Methodology
Documentation reviews	A structured review of project documentation, study of history of execution of similar projects and quality of plans as well as the consistency between those plans and project requirements/ assumptions would be an indicator of risks in the project
Information gathering techniques	<ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Delhi technique</li> <li>• Checklist analysis</li> <li>• Cause and effect diagram</li> <li>• Questionnaires</li> <li>• SWOT analysis</li> <li>• Expert judgement</li> </ul>

*Table N° 7: Tools and techniques for risk identification*

*Source:* K. Srinivas: Process of Risk Management, book citation Index, Web of sciences, [www.intechopen.com](http://www.intechopen.com).

## 2. Risk assessment

There are three important principles for assessing risk<sup>1</sup>:

- Ensure that there is a clearly structured process in which both likelihood and impact are considered for each risk.
- Record the assessment of risk in a way which facilitates monitoring and the identification of risk priorities.
- To be clear about the difference between, inherent and residual risk this involves registration of identified risks in a formal manner.
- Classification and reference

Standard or Framework	<b>COSO</b>	<b>IRM</b>	<b>BS 31100</b>	<b>FIRM Risk Scorecard</b>	<b>PESTLE</b>
Classification headings	Strategic Operations Reporting Compliance	Financial Strategic Operational Hazard	Strategic Programme Project Financial Operational	Financial Infrastructure Reputational Marketplace	Political Economic Sociological Technological Legal Environmental

*Table N° 8: Risk classification systems*

*Source:* P. Hopkin: fundamentals of risk management, Op. Cit, p 133.

- Description of the risk: This involves giving a brief description of the risk. The description must be unique in order to avoid confusion with similar risks in the risk management process.

<sup>1</sup> The Orange book, Ibid, p 19.

- Relationship of the risk to other risks: In any project, it is extremely rare that any activity is independent of activities which occur concurrently or consequentially and this will always be the case for risks also for successful implementation of risk management.
- Potential impact: Impact of risk on a project is measured in terms of cost and quality. Since this assessment is done at an early stage of the project, information may not be available to accurately predict the impact of risk on the project. At this stage, the risk is classified suitably and accordingly high impact risks are to be given more fundamental consideration than that of medium, low, and negligible risks.
- Likelihood of occurrence: Based on intuition and experience, the likelihood of occurrence (P) of risks and its impact (I) is to be given on a suitable scale: Ex. 1–10 (1 refers to low probability and 10 refers to high probability). The risk factor for each of the identified risks is calculated by the formula<sup>1</sup>:

$$\mathbf{RF = P + I - (P*I)}$$

- Risk response/mitigation strategy.
- Allocation of risks to stakeholders: This action is taken to reduce, eradicate or to avoid the identified risks. The most common among the risk mitigation methods are risk avoidance, risk transfer, risk reduction and risk sharing. Based on the competency in handling the risks, the identified risks are allocated to respective stakeholders who will be responsible for addressing those risks.

### 3. Risk appetite

The concept of a “risk appetite” is a key to achieving effective risk management and it is essential to consider it before moving on to consideration of how risks can be addressed. The concept may be looked at in different ways depending on whether the risk (the uncertainty) being considered is a threat or an opportunity:

- ✓ When considering threats the concept of risk appetite embraces the level of exposure which is considered tolerable and justifiable should it be realized. In this sense it is about comparing the cost (financial or otherwise) of constraining the risk with the cost of the exposure should the exposure become a reality and finding an acceptable balance.
- ✓ When considering opportunities the concept embraces consideration of how much one is prepared to actively put at risk in order to obtain the benefits of the opportunity. In this sense it is about comparing the value (financial or

<sup>1</sup> K. Srinivas, Op. Cit, p8.

otherwise) of potential benefits with the losses which might be incurred (some losses may be incurred with or without realizing the benefits).

#### 4. Addressing risks

The purpose of addressing risks is to turn uncertainty to the organization's benefit by constraining threats and taking advantage of opportunities. Any action that is taken by the organization to address a risk forms part of what is known as "internal control", there are five key aspects of addressing risk:

Tolerate	Treat	Transfer	Terminate	Take the opportunity
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#### 5. Risk response planning

The risk response will be in the form of mitigation by adopting necessary strategies in respect of positive and negative risks which are<sup>1</sup>:

**Exploit:** This strategy is selected for risks with positive impacts where the organization wishes to ensure that the opportunity is realized. This strategy seeks to eliminate the uncertainty associated with a particular risk by ensuring that the opportunity is exploited.

**Share:** Sharing a positive risk involves allocating some or all of the ownership of the opportunity to a third party capable of capturing the opportunity for the benefit of the project. Risk sharing, joint ventures, etc. are examples of this strategy.

**Enhance:** This strategy is used to enhance the positive impact of an opportunity. Identifying and maximizing key drivers of risks may increase their probability of occurrence.

**Accept:** Accepting an opportunity means willing to take advantage if it comes along, but not pursuing it actively

**Contingent response strategies:** Some responses are designed for implementation only if certain events occur. It is appropriate for the project team to prepare a contingency response plan that will be executed under certain predefined conditions if there will be sufficient warning to implement the plan.

**Expert judgement:** expert judgement is from knowledgeable individuals pertaining to the actions to be taken on a specific and a defined risk.

<sup>1</sup> Ibid, p 12.

## 6. Monitoring and controlling risks

Tools and Techniques for monitoring and controlling risks<sup>1</sup>:

**Risk reassessment:** Monitoring and controlling of risks will result in identification of new risks, reassessment of current risks and closing of risks that are not a threat to project.

**Risk audits:** The purpose of risk audits is to examine and document the effectiveness of risk responses in dealing with identified risks and their root causes as well as effectiveness of the risk management process meetings.

**Earned value analysis:** Variance analysis is done by comparing the planned results with actual. Trends in execution of a project are reviewed using performance information and based on earned value analysis, deviation from cost and schedule targets is determined which may indicate potential impact of threat/opportunities.

**Technical performance measurement:** This measures technical accomplishments during project execution and will help in forecasting degree of success in achieving the project scope and it may expose the degree of technical risk faced by the project

**Reserve analysis:** This compares the amount of contingency reserves available at any time to the amount of risk remaining in the project to determine whether the reserves are adequate.

### 2.7. Risk Management standards:

There are a number of established risk management standards and frameworks. These Standards have been developed by national standards bodies, as well as by government departments across the world.

#### ➤ **The IRM Standard:**

The IRM Standard is a high level approach aimed at non-risk-management specialists, it published by the Institute of Risk Management (IRM) in 2002. The figure below represent risk management process by this Institute<sup>2</sup>:

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<sup>1</sup> Ibid, p 13.

<sup>2</sup> P. Hopkin, Ibid, p 55.

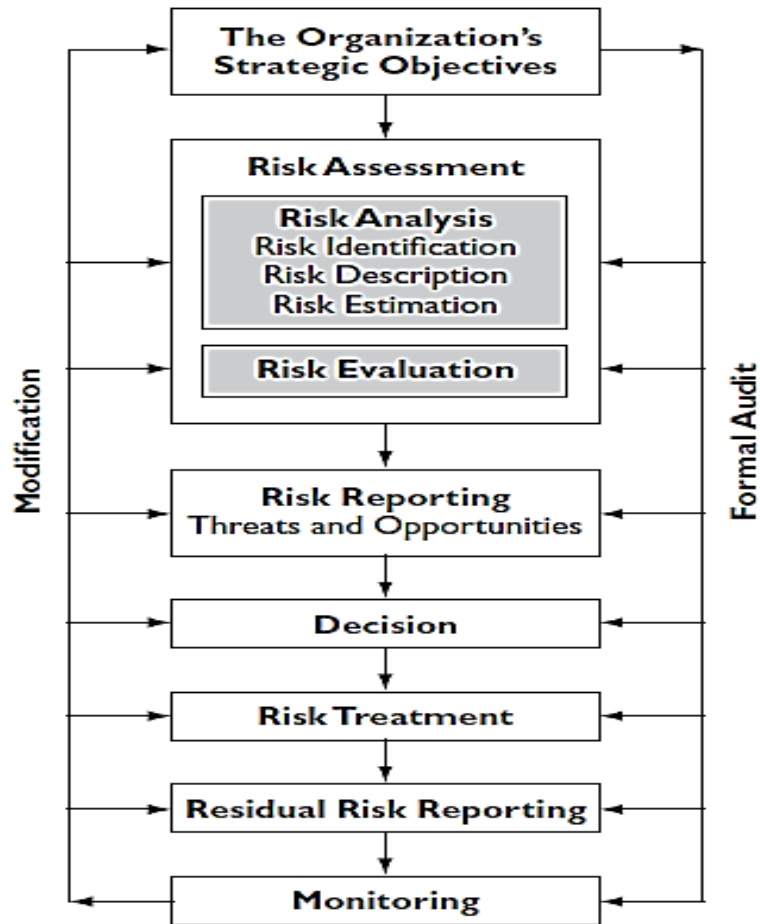


Figure N° 15: IRM risk management process

Source: P. Hopkin, fundamentals of risk management, Op. Cit, p 55.

➤ COSO Framework:

In the COSO ERM framework, stated that there is a direct relationship between objectives, which are what an entity strives to achieve, and enterprise risk management components, which represent what is needed to achieve them. The relationship is depicted in a three-dimensional matrix, in the form of a cube as follows:

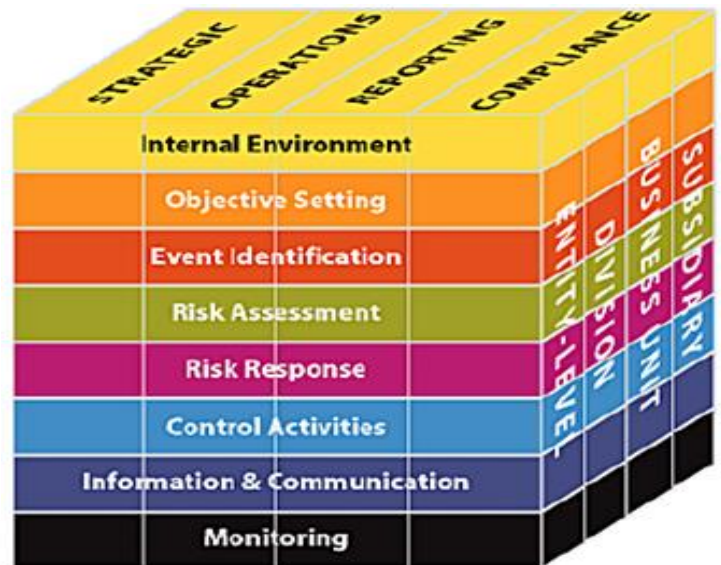


Figure N° 16: COSO ERM Framework

Source: COSO framework.

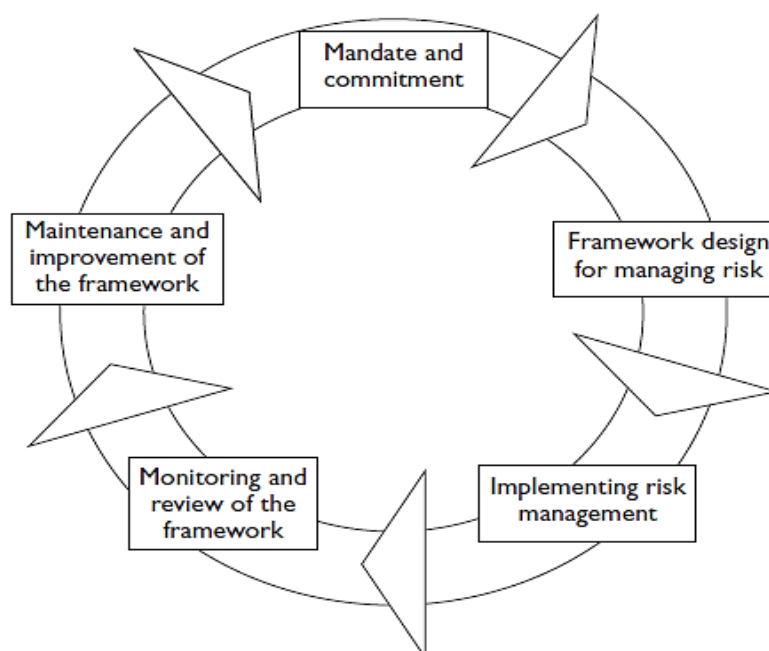
COSO ERM cube describes the framework by stating: ‘within the context of the established mission or vision of an organization, management establishes strategic objectives, selects strategy and sets aligned objectives cascading through the enterprise.’ This enterprise risk management framework is geared to achieving corporate objectives, set out in four risk categories:

- Strategic: high-level goals, aligned with and supporting its mission.
- Operations: effective and efficient use of its resources.
- Reporting: reliability of reporting.
- Compliance: compliance with applicable laws and regulations.

➤ **BS 31100 Framework :**

British Standard BS 31100 describes the risk management framework as a set of components that provide the foundations and organizational arrangements for designing, implementing, monitoring, reviewing and continually improving risk management processes throughout the organization.

The foundations include the objectives, a mandate and commitment to managing risk, and the organizational arrangements include plans, relationships, accountabilities, resources, processes and activities (architecture). The risk management framework is embedded within the organization’s overall strategic and operational policies and practices (protocols).

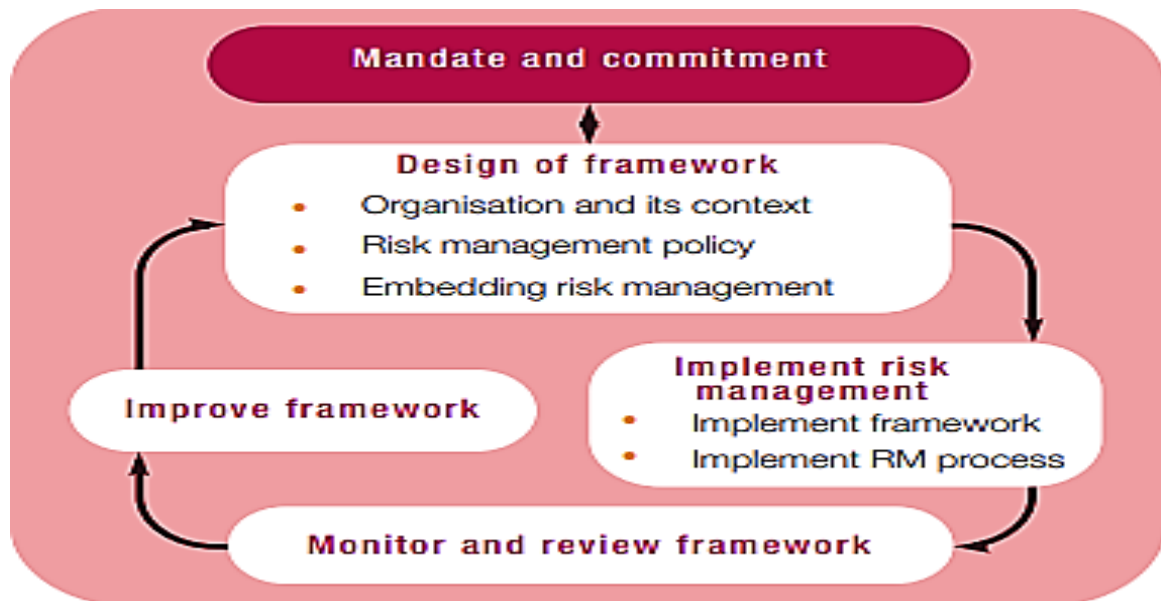


*Figure N° 17: Risk management framework from BS 31100*

*Source:* P. Hopkin, fundamentals of risk management, Op. Cit, p 60.

➤ **ISO 31000 Framework:**

ISO 31000 describes the components of a risk management implementation framework. It includes the essential steps in the implementation and ongoing support of the risk management process. The initial component of the ISO 31000 framework is ‘mandate and commitment’ by the Board and this is followed by design of framework, implement risk management, monitor and review framework, and improve framework. Figure below provides a simplified version of this implementation framework<sup>1</sup>.

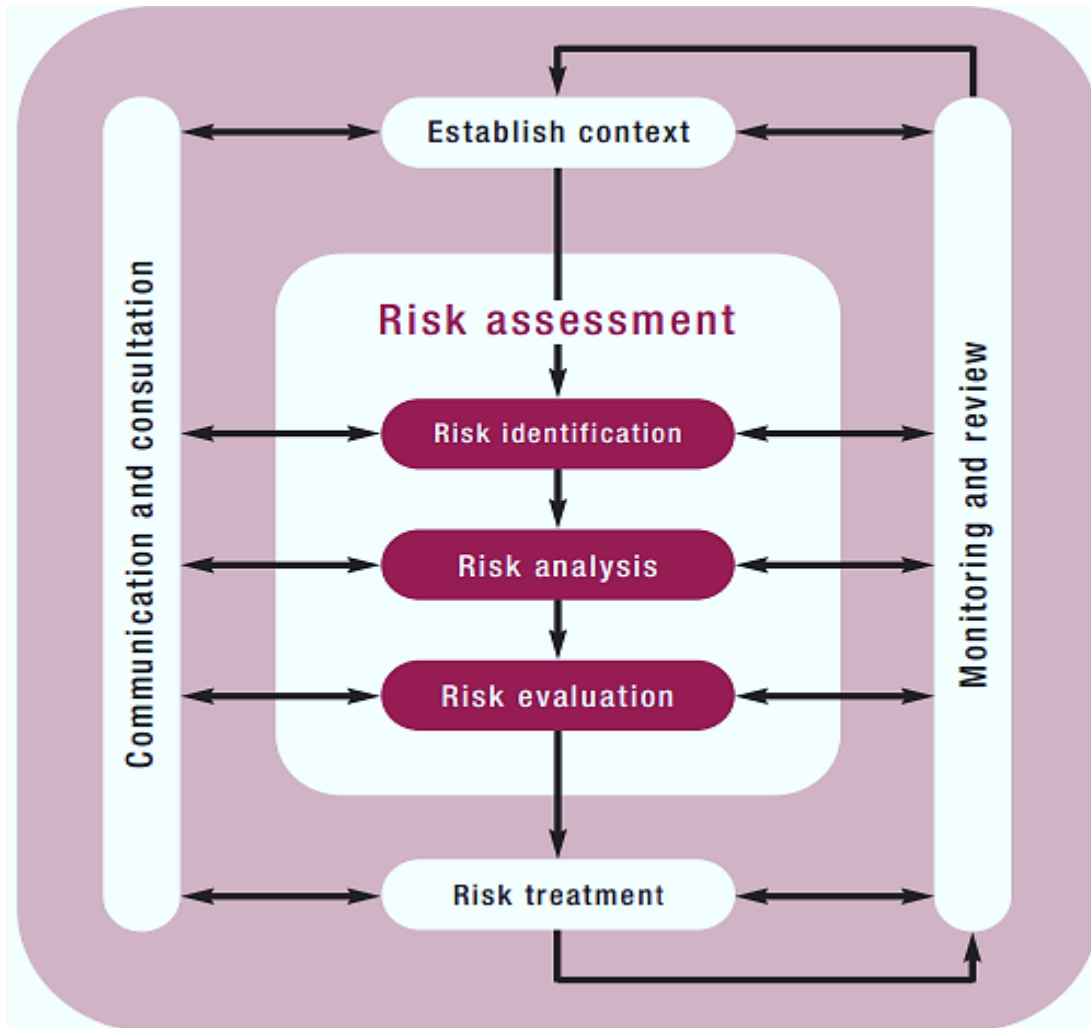


*Figure N° 18: Framework for managing risk (based on ISO 31000)*

*Source: A structured approach to enterprise Risk Management, AIRMIC, Alarm, IRM associations, available at: <https://primo-europe.eu/wp-content/uploads/2013/04/ERM-and-ISO-31000.pdf>, p 8.*

The risk management process involves the systematic application of policies, procedures and practices to the activities of communicating and consulting, establishing the context and assessing, treating, monitoring, reviewing, recording and reporting risk. This process is illustrated in Figure 13.

<sup>1</sup> A structured approach to enterprise Risk Management, AIRMIC, Alarm, IRM associations, available at: <https://primo-europe.eu/wp-content/uploads/2013/04/ERM-and-ISO-31000.pdf>, p 7.



*Figure N° 19: Risk management process (based on ISO 31000)*

*Source: A structured approach to enterprise Risk Management, AIRMIC, Alarm, IRM associations, available at: <https://primo-europe.eu/wp-content/uploads/2013/04/ERM-and-ISO-31000.pdf>, p 9.*

➤ **The Coco framework:**

The Canadian Criteria of Control (COCO) framework produced by the Canadian Institute of Chartered Accountants is based on the idea that the risk culture of the organization is the most important consideration this is named as “Control environment approach”.

## 2.8. The relation between internal control system, risk management and governance:

### ✚ The relation between ICS and RM:

There are different views about the relation between internal control system and risk management, if they are Integrated or separate<sup>1</sup>:

- ✓ Risk management and internal control are seen by some as being more separate. In their view, risk management is focused more on external (strategic, financial, and regulatory) threats and opportunities, while internal control is mainly focused on internal (operational) weaknesses. Because of the different objectives and responsibilities, risk management and internal control systems should be more separate.
- ✓ However, others view risk management and internal control as two sides of the same coin, risk is managed by having in place the right controls to safeguard against its occurrence, while internal control exists only in relation to what they do to mitigate risk. For that reason, risk management and internal control systems should be more integrated.

### ✚ The relation between ICS, RM, and Governance:

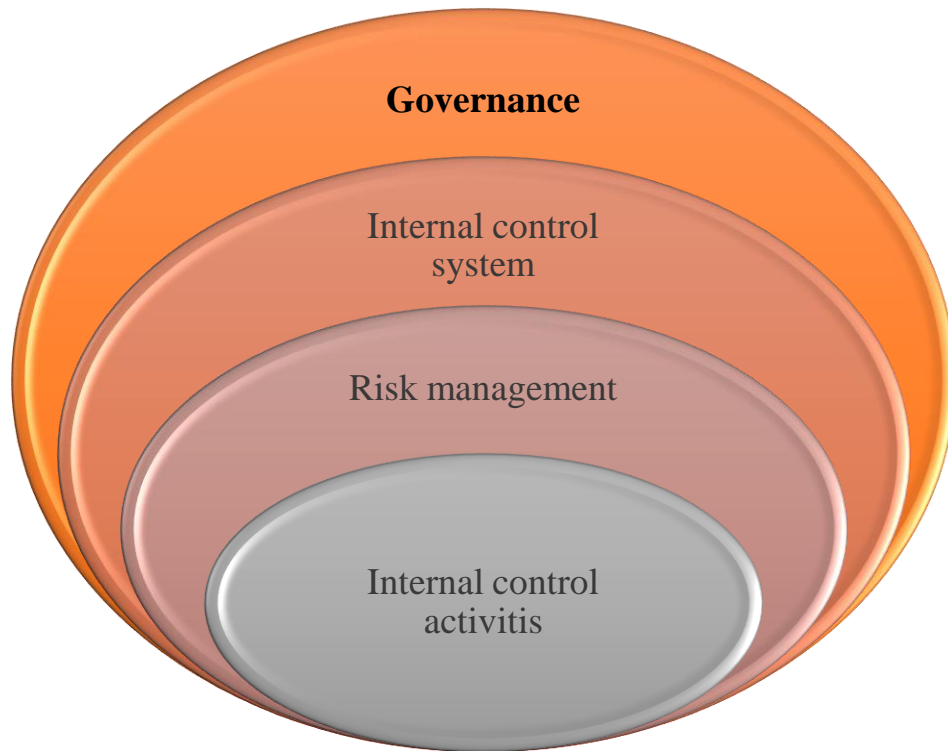
The Internal Control and Risk Management System is an essential and qualifying elements of the Corporate Governance of the companies, and plays a fundamental role in the identification, measurement, management and monitoring of significant risks, making them compatible with the company's strategic objectives and thus contributing to the creation of medium and long-term value.

Internal control and risk management are an integral parts of modern governance systems and are essential tools to prevent, detect and respond to corruption. So governance is an aspect of risk management and internal controls in any organization.

The integrated relation between risk management, internal control system and corporate governance can be explained with the diagram next page:

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<sup>1</sup> International Federation of Accountants: Global Survey on Risk Management and Internal Control Results, Op. Cit, p 8.



*Figure N° 20: the Relation between risk management, internal control, and Governance*

Source: by the student based on the previous information

**Conclusion:**

Based on what was tackled in the theoretical framework, we conclude that the internal control system is an integrated framework with the risk management process to ensure the effective achievement of the company's objectives, as well as avoiding risks and emphasizing its good management.

We tried to address all aspects of the internal control and risk management system in order to comprehensively understand the topic and this in terms of addressing the basic definitions, importance, objectives, components, basics and standards, while extracting the relation between internal control and the risk management system.

## **Chapter two**

### **Empirical Study**

## Chapter two Empirical study

<b>1</b>	<b>Introduction</b>
2	Presentation of Maghreb Pipe Company
3	Definition of Maghreb Pipe Company
4	The Maghreb Pipe Company structure
5	Applied study methodology
6	Applied study implementation
7	Comparison between collected data and theoretical framework
8	Evaluating the internal control system of Maghreb pipe company
<b>9</b>	<b>Conclusion</b>

## 1. Introduction

After dealing with the theoretical framework related to the role of the internal control system in risk management, this chapter is fundamentally concerned with the practical side of the study wherein the primary focus is trying to prove the efficacy of internal control system in risk management and its reality in economic institutions, through conducting a field study on *MAGHREB PIPE INDUSTRY*, in order to address the problematic of the study and test the proposed hypothesis.

In this chapter, we shed light on the company under study in terms of its origins, description, geographical framework, activity and organizational structure. In addition to that, descriptions of the applied study methodology. Then we present the reality of its implementation of the internal control system in the Maghreb Pipe Company and how it faces risks and manages them. In the end, we will compare this reality with what was stated in the theoretical framework and thus assess and evaluate the effectiveness of the company's internal control system, including the evaluation of the company's performance.

## 2. Presentation of Maghreb Pipe Company

The Maghreb Pipe Company for Industry with Limited Liability (SARL) was established on October, 2004, after it was proposed as an idea in 2001 between six partners with a capital of ten million two hundred thousand Algerian dinars, divided equally among the partners. Now it is incorporated among three partners with a capital of the amount one milliard Algerian dinars. Its beginning was in the import and export of pipes and their derivatives, after that it entered the field of production on September, 2009. The object of its creation is reflected in two activities, a main activity and a secondary activity.

As for the main activity, it is: manufacture of fiberglass tubes and channels \_ import and export of materials and equipment related to the field of irrigation \_ import and export of equipment and machinery, raw materials and accessories intended for the manufacture and transformation of minerals \_ and import and export of all equipment, machines and accessories intended for the manufacture and transformation of plastic and rubber.



Maghreb Pipe Industry has been active for several years in the field of engineering and carrying out projects in public works, buildings, hydraulics, irrigation and the environment; is qualified by the ministries of public works, buildings, and water resources as a secondary activity. Since its creation in 2004, Maghreb Pipe Industries has developed leading expertise in public works and irrigation, excavation and rural works, urban works and public cleaning, laying long distance canals, and preparing irrigated areas and drainage of water. The main challenge for this company is to maintain its high performance standards in pipe laying.



The Maghreb Pipe Company, which has been strengthened with its experience and management capabilities, has also developed partnerships with local and foreign companies to implement major projects. Its products are characterized by high quality according to the latest technology, skills are certified and monitored within the framework of the quality management system which has been devoted in the certification to ISO 9001 standards since May 2012, and now it has the ISO 2015 version.

### 3. Definition of the Maghreb Pipe Company

Maghreb Pipe industry is one of the leading companies at the national level and at the Moroccan level in the manufacture of pipes and channels made of fiberglass according to the latest technology PRV "Polyester Renforcé de fibre de Verre" - meaning pipes The plastic reinforced with glass fibers which is characterized by non-corrosion and rust resistance and is not affected by the external natural conditions and does not interact with the soil and transported water - mainly based on achieving local sufficiency in the material and aspiration to export abroad, especially after the company contributed its products that take great care of preserving human health in the first place And the environment in the implementation of water resources sector projects across 32 states and in various countries, with a maximum production capacity of 500 km annually, it has about 520 qualified employs workers. This qualified them to obtain the ISO 9001 certificate of conformity and it participate in many national and even international salons. Pipes are produced by means of continuous axial winding process as well as intermittent; the establishment produces two types of tubes of continuous coiling axial tubes, and axial segmented winding tubes.

#### Geographic location:

The Maghreb Pipe Foundation is located in the industrial zone of the Wilaya of M'sila. It occupies an area of 4 hectares.

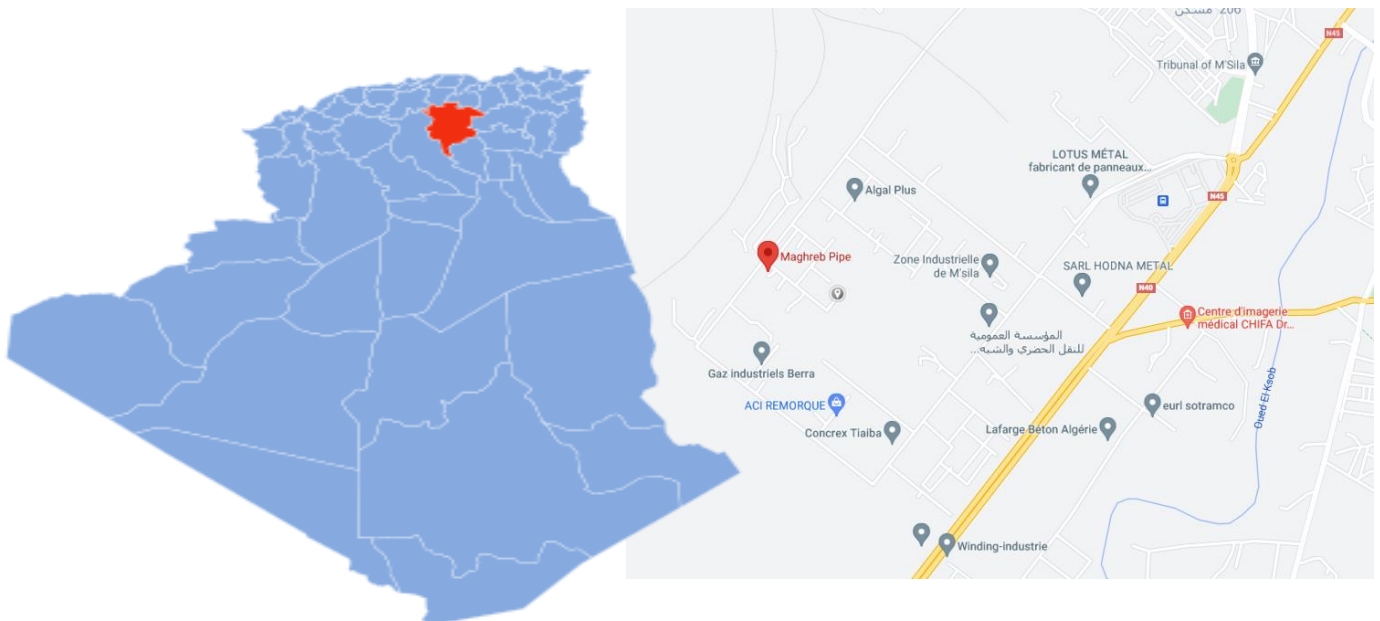


Table N° 9: Technical card

Products				
Pipes	assembling parts		special accessories	
Areas of use				
Sewage lines	Water supply lines	Irrigation systems	Waste water treatment systems	Industrial water streams
Transport of corrosive liquids	Sea water drainage outlets	Water cooling system.	Water desalination factors	
Product Features				
Diameter ranges From 80 mm to 2600 mm.		water pressure ranges from 1 to 40 BR		
Resistant to corrosion, acidity and rust.	smooth surface	Long life product (50) years.	Light weight compared to iron (1/4)	Light weight compared to concrete pipes (1/10)
Production mechanism				
04 production lines	Workshop for producing assembling parts and pipe accessories	Ready-made parts production workshop.	Laboratory for analysis and quality control	
Productions material				
Resin	Fiberglass	Chemical additives (Catalyst, cobalt, etc.)	Dried sand	
Annual production capacity				
500km pipes from various diameters with assembly parts and accessories				
Inclusion rate for employment: 100%				
Inclusion rate for the product: 50%				
Future expansion				
<ul style="list-style-type: none"> <li>-new quality requires an additional area of at least 5 hectares</li> <li>- Achieving local sufficiency in the material (fiberglass pipes)</li> <li>-It aspires to export abroad which is in the interest of the national economy.</li> </ul>				

*Source: By the student based on appendix N°: (01)*

4. The Maghreb Pipe Company structure

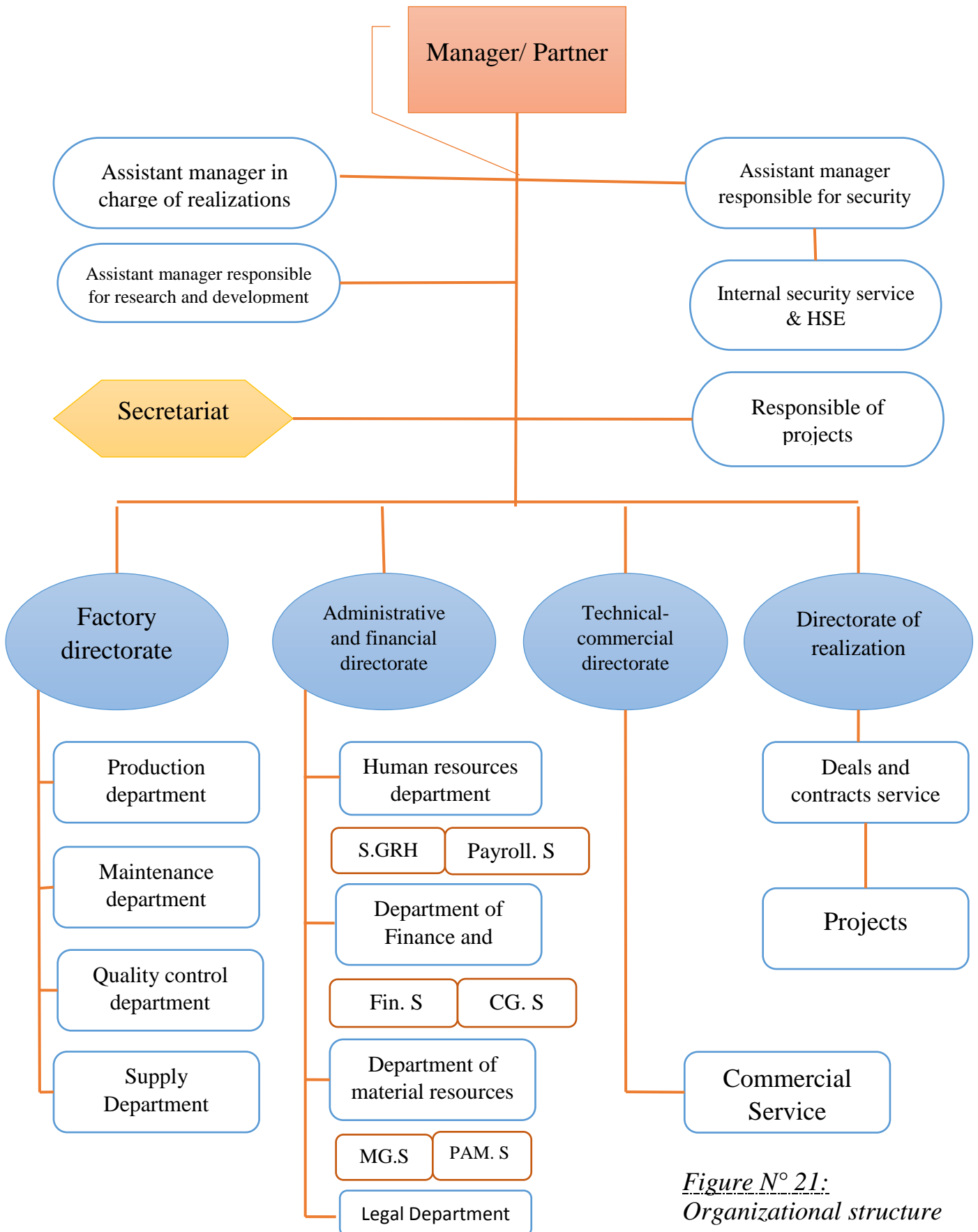


Figure N° 21:  
Organizational structure

Source: by the student  
Based on appendix N° (02)

➤ Reading company's structure

From the previous figure, we notice that the Maghreb Pipe Company structure is a functional one. It starts with positions with the highest levels of responsibility “the manager” at the top and goes down from there to the employees.

In the first place at the strategic level (higher management), we note that the manager is primarily responsible for all the orders and the instructions, then his assistants fall under his direction. There are five assistants, one of them is responsible for realizations and the other is responsible for research and development. In addition, there is another official responsible for security, and two others are responsible for internal security and projects respectively.

Secondly, at the executive management, we note that the structure divides the company into four directions, factory, financial and administrative, technical-commercial and realization directorate. Each factory is divided into departments according to their functions.

Lastly, at the operating level, each separate department is managed independently. Each department vertically structured with roles from department head to staff. Employees are organized according to their specific skills and their corresponding function in the company, as follows:

**Factory directorate:** This directorate is responsible for the main activity of the company producing glass tubes inside the workshops, and consists of the production department, the maintenance department, the quality control department and the supply department that supplies the enterprise with raw materials.

**Administrative and financial directorate:** This directorate is divided into four sections, a section concerned with recording accounting and financial operations, preparing financial reports, and everything related to the company's finances. It is divided into two sections: Finance and Cash Management. Another section related to human resources, which includes two sections, career management service and payroll service. In addition to material resources department which contains computer section and maintenance section. The fourth section is the legal department.

**Technical-commercial directorate:** This department receives customer requests and directs the company's factory according to the client's desire, and has a commercial service that is concerned in the marketing aspect.

**Realization directorate:** It is concerned with the second activity of the company, which is based on tracking the available projects and selecting the best ones, and then implementing them according to the agreed upon conditions.

## 5. Applied study methodology

For our training application, these are the activities and processes conducted to collect data for research work. The training was focused on the following.

### Research Design:

The research aims to detect and evaluate the effectiveness of the internal control systems of the Maghreb Pipe Company in reducing risks and ensuring the effectiveness and efficiency of operations and thus achieving the objectives of the company.

### The sample used in the study

A sample of 14 employees - administrative staff - was taken from a target group of 20 employees, all of them are male, that is, 70 % of the study sample. The study was conducted in several departments and workshops.

### Data sources

In this study the primary data is collected from an interview completed with managers and employees of the company. The interviews were conducted with the employees of the Maghreb Pipe Company. In addition, we collected all the notes and the information taken during the training period.

### Data analysis method:

The independent variable “internal control system” was manipulated to measure its effect on the dependent variable, which is risk management. Therefore our methods of analysis are descriptive and comparative:

As for the descriptive side, it was done by recording all the facts that we found in the company and deducing the results from the interviews that were conducted. By comparing these results with the theoretical framework discussed in the previous chapter, we had evaluated the Maghreb Pipe Company's internal control system and its effectiveness.

The study has two methodological approaches; Descriptive and explanatory research. These two approaches will help analyze and explore the role of the internal control system, and how this affects risk management in companies.

## 6. Applied study implementation

In order to give greater freedom to answer the questions, the researcher chose to adopt the open interviews, whose questions were derived from the theoretical literature of the study. The interview questions revolved around the reality of internal control system in the company (appendix N°3). After we went to Maghreb Pipe Company, and conducted interviews with some of its employees, we present and summarize the answers as follows:

### Analysis interview 1:

#### - **Summary of answers related to control environment questions:**

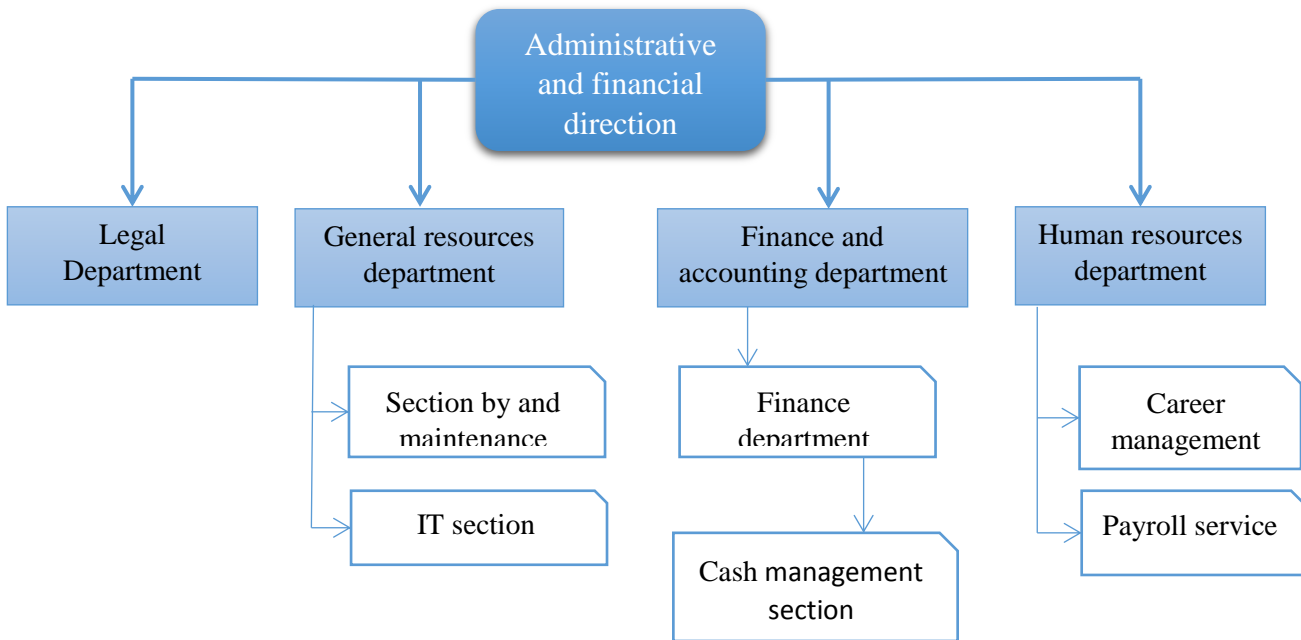
The company is particularly a family business, due to the kinship between its founding partners. Since its inception, the company n has gone through several reforms that are the reason for its success now. These reforms are related to the procedures, laws and processes of the internal control system. Among these reforms, we can cite some examples, the processes that occur within the company are carried out in written and in a documented manner, for example in the management of inventory when requisition of supplies, this is done through the raw materials requisition order, or when the materials are delivered, through the exit voucher, etc. For all operations performed. Another example when buying a new asset for the enterprise, the process is carried out with accurate and controlled procedures, the receipt document is prepared, approved and signed by the manager, checking whether the original matches the supporting document In the presence of employees from the administration and signing it.

According to the official in charge of the Administrative and Financial Directorate, the company does not have an internal control system as a written system or a manual that must be followed, but it has procedures and laws, even if they are oral, which constitutes an effective internal control system in the company. In addition to that, the company does not have an internal control unit and an internal audit unit, but it implements control activities. For all operations performed. So it is aware about the importance of the internal control system and it makes it a priority.

For the types of internal control, the company operates according to the principle of precaution and caution according to the so-called precautionary management. So it uses preventive, directive and detective controls.

From Appendix N° (04), we note that the Department of Administration and Finance has divided the responsibilities accurately and that each individual is

responsible for his work, facilitating the processes of communication between employees as well as their control.



*Figure N° 22: Dividing responsibilities in administrative and financial direction*  
*Source: by the student based on appendix N° (04)*

- **Summary of answers related to risk assessment questions:**

As we mentioned before, the company operates according to the principle of precaution and caution according to the so-called precautionary management, where we find that it does not face any risks threatening its work, especially with regard to liquidity, as it operates according to an agreement with a bank that is its main financier. The company concludes its deals based on the funds available to it and has never faced a financial deficit that hinders its work. In terms of the times of paying workers and collecting money from customers, the cycle of this process takes place in a controlled manner. Workers receive their wages at the appointed times. As for the customer, in the event of his late payment, this delay will be compensated, of course. In addition to that the manager is solely responsible for financial transactions and settlement of deals, or anything related to money and bank checks.

- **Summary of answers related to control activities questions:**

Maghreb Pipe Company works to raise competencies and expand the expertise of employees, each according to his field and specialization, where employees undergo

internal training in the course of their professions and skills acquisition, in addition to ensuring that they are sent to training courses and studies abroad our Wilaya- M'sila to enable them to develop their expertise.

The external auditor has never refused to certify the company's financial statements, or the tax authority sent inquiries about our tax returns.

- **Summary of answers related to information and communication questions:**

Communications between department employees are verbal, but from department to department, it should be in writing way, either on a document or via email.

- **Summary of answers related to monitoring questions:**

In this directorate, workers are monitored in a sudden way; The Company uses the latest technologies that have greatly facilitated the organization of work and the follow-up and correction of any errors that occur in a timely manner. As for the applicable laws, the company is always aware of them and strives to keep up

**Analysis interview 2:**

- **Summary of answers related to control environment questions:**

In the finance and accounting department, operations immediately recorded -all financial and accounting operations related to the activity of the company- according to the financial accounting system SCF using the latest special software for that ERP, which is a system that includes a set of programs that are installed in all the computers of the company, for example, in the purchasing department, we find a program related to purchases in which all the operations related to the purchase are recorded and then sent to the accounting department, and the same for the payroll service and other departments. When it is sent to the Accounting Department, we monitor and record it.

There is no internal auditor, the company's accountant is responsible for recording and monitoring at the same time.

- **Summary of answers related to risk assessment questions:**

There are operational risks and legal risks, the first of which relates to the fundamental risk of material misstatement. In this case, the company will follow up and check all accounting records in a timely manner to avoid their occurrence or correct them if they occur. The second relates to constantly changing the laws that the company follows constantly.

- **Summary of answers related to control activities questions:**

The company carries out periodic matching procedures, where matching assets on the record notebooks with the assets already on hand or match the bank's operation to its balance. If there is a difference, the reason for that difference should be included. This process is done every year in addition to taking a sudden inventory control. As for the stocks, the inventory is carried out every month, and the weighted average cost is determined by our department and sent to the stock department.

Other activities are implemented in financial and accounting department, point out of them; the accounts divided into categories. Each class has its own area in the program. All operations related to it appear, for example, the company's assets, debts, rights, costs and products. This classification is recorded according to the code of accounts, where the first three digits are according to the accounts code, and the rest is chosen according to the company.

The ERP program cost the company a high amount, but its role covered this cost. It facilitates operations and delivers them in a quick way. It also facilitates the method of communication between departments and avoids the use of paper and writing, which has a higher error rate than using programs that we consider almost non-existent.

- **Summary of answers related to information and communication questions:**

Reports and financial statements are tools of communication in this department. Instructions and information are verbal between employees and official.

- **Summary of answers related to monitoring questions:**

In this section, operations are dealt with according to the documentation method, where each department is responsible for any operation that has been implemented. The responsibility that the accountant bears is related to recording the reports and financial statements that he receives from other departments, but any deficiency or any error within those lists is borne by the employee responsible for this process. The authentication method helped to control the responsibilities and each person takes responsibility for his work, which led to the self-control of each individual, that is, the error rate was reduced to a minimum.

Analysis interview 3:

In the department of human resources we gathered these answers:

- **Summary of answers related to control environment questions:**

This department takes care about the way of managing human resources in terms of evaluating and developing the skills of employees and monitoring them, and how to ensure their communication, in addition to risks that can be found at this level.

The RH department is responsible of proceeding on the job employment (hiring employees), following up their performance, developing their competencies, determination of wages, monitoring attendance and discipline at work.

Supervision is carried out according to the administrative hierarchy. The highest level official monitors the next lowest level official, and so on until reaching the end of the ladder. The level of performance is evaluated based on the objectives set. If the goals are achieved, the level of performance is good and vice versa.

- **Summary of answers related to risk assessment questions:**

The risks in this department are time related, which means that reports must be prepared in a timely manner or as requested from the responsible of this direction \_ administrative and financial directorate-. Errors can occur in registering a worker, for example, or forgetting a worker. In this case, the employees work according to the conservatism principle. If we encounter an error in registering the attendance of a worker this month, this error is followed up in the following month and ensures non-recurrence this.

- **Summary of answers related to control activities questions:**

Workers are controlled by attendance, control work discipline and workmanship.

- **Summary of answers related to information and communication questions:**

Instructions to workers in this department are verbal, for example when a worker is asked to prepare a file. Instructions are also written publications that are posted to inform workers of a change in the timing or attendance of workers on a particular date. As for communicating with high-level departments or another department, this is done in writing way, for example, writing a report to inform the manager of the conditions of the work process.

- **Summary of answers related to monitoring questions:**

As for the monitoring of employees and their discipline in their work, this responsibility rests with the direct supervisor of the worker, as for monitoring the employee and in order to know the level of proficiency; the employee undergoes a level assessment test – appendix N° (05)-, after they evaluate him there are four possibilities:

- The first possibility: a high level of proficiency that keeps the employee in his job and ensures the proper functioning of his work.
- The second possibility: an average level, the employee is trained in training courses and studies if necessary.
- The third possibility: an average level and there was no improvement even after the training course. The employee's job position is changed according to his qualifications and capabilities.
- Fourth possibility: If there is no improvement, the worker is dismissed from his job.

Analysis interview 4: - At the technical-commercial directorate -

- **Summary of answers related to control environment and control activities questions:**

Maghreb Pipe Company produces on demand; this unit is responsible for receiving customers' orders and providing them with details. The work stages are as follows:

- ✓ First, receiving a request for a pro forma invoice (appendix N° (06)) for a specific product or collection of products, this pro forma invoice includes the purchase order from the company, and shows the product to be purchased, its quality, diameters and quantity.
- ✓ After receiving the order, the official check the company's available stock of readymade products if it is sufficient, if it is not, they check the stock of raw materials and the production capacity of the company. If the required quantity is available, they prepare the pro forma invoice and send it to the customer, which shows the requirements of the deal in terms of price, quality, quantity, order delivery date, payment method and time of payment (appendix N° (07)).
- ✓ If the customer accepts the requirements, he confirms his order by sending purchase order (appendix N° (08)).

- ✓ They check the company's available stock of readymade products, if it is sufficient they send intervention request document (appendix N° (09)) to the production direction so to prepare the order.
- ✓ If the readymade products are not sufficient, they send fabrication order to the factory direction (appendix N° (10)) thus to prepare the order.
- ✓ When the order is ready, they prepare the bill (appendix N° (11)), then send the order to the customer with a dispatch document to confirm that the order was sent (appendix N° (12)).
- ✓ When the customer receives his merchandise, he re-sends a receipt document (appendix N° (13)) proving that he has received the goods with payment.

These steps make it clear that the company plans its goals and organizes ways to achieve them regularly, and proves this according to approvals and documents.

- **Summary of answers related to risk assessment questions:**

They can encounter risks in their work, these risks can be:

- Unavailability of raw material.
- The customer's abandon to receive his order.
- The Customer payment delay.
- We do not have competitors who produce in the same production type (PRV pipes) that we produce, but we have competitors in another category.
- The state controls the market.
- Absence of employees and consequently not placing the order on time.
- In this year we faced the Coronavirus crisis, which led us to be out of work for a period of time.
- **Summary of answers related to information and communication questions:**

With regard to communication between workers, each worker has his own description document in which he explains the results of his work, communication with other workers from the same department or from abroad can be in oral or written way, it is also made by using social networking sites What's-up, Viber or e-mail in order to give instructions or report something

- **Summary of answers related to monitoring questions:**

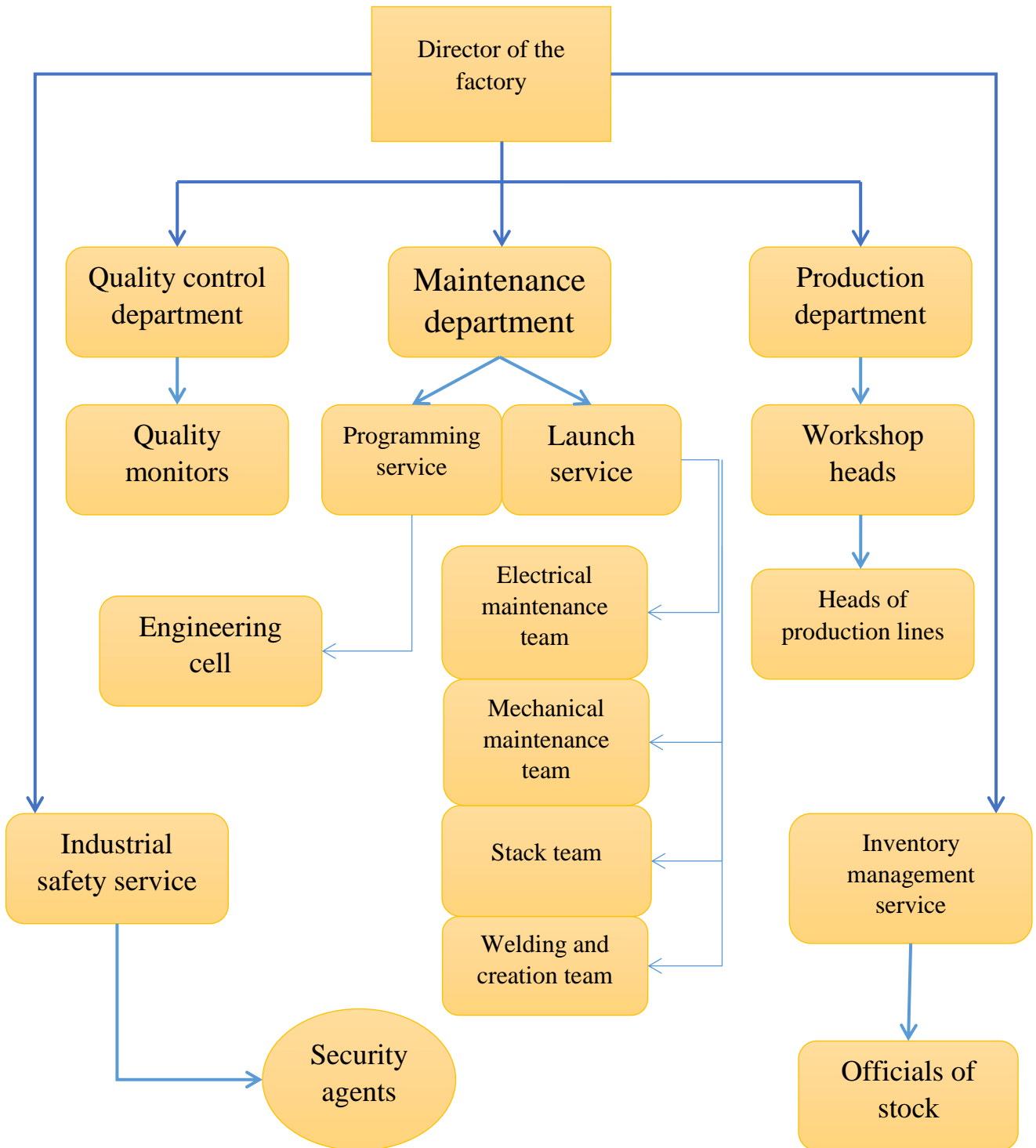
Monitoring work process of this department is in terms of staff discipline and the effectiveness of their performance. Every month, a written report about inventory is submitted to the head of trade department in order to control customers' orders.

Analysis interview 5:**- Summary of answers related to control environment questions:**

The company is working on developing short, medium and long-term plans and seeks to achieve them for the permanent and continuous development of the company. The strategic level of Maghreb Pipe Company sets the objectives that the company seeks to achieve are:

- ✓ Production of fiberglass-reinforced channels and accessories according to international standards in force in this field.
- ✓ Maintaining high quality of the company's products.
- ✓ Responding to customer requirements and satisfaction in the field of irrigation systems (potable water and wastewater) and industrial projects.
- ✓ Ensure the use of qualified labor and work on developing their capabilities based on their training and allowing them to gain experience.
- ✓ Ensure to work in a healthy, safe and secure environment.
- ✓ Work within a system that conforms to management quality standards ISO-9001 version 2015.

For the factory directorate, there is a tight organization of work and the distribution of responsibilities and work according to the rotation system in this unit. The organizational structure of the factory is laid down to divide these responsibilities and the workflow within it, as shown in the figure N° (14) on the next page.



*Figure N° 23: organizational chart of factory direction*

Source: By the student based on appendix N° (14)

- **Summary of answers related to risk assessment questions:**

The risks that can Maghreb pipe company faces in its industrial path, it depends on SWOT analysis in its risk management process:

- ✓ Political instability, what we have witnessed since the beginning of the Algerian popular movement to this day, there is no stability.
- ✓ Lack of continuous development in the economic field;
- ✓ Absence of a comprehensive economic plan for the country.
- ✓ External conditions in the foundation's environment and what it witnessed in the Corona various crisis.
- ✓ Fluctuations in economic climate.
- ✓ Internally, there are no weaknesses or risks and they are always controlled in a timely manner.

The taken actions to managing these risks:

- ✓ - Identification and monitoring risk.
- ✓ - In the risk management process and after identifying and categorizing them, we make a plan to control 20% of these risks and thus ensure good results and seize opportunities with a probability of 80%, rather than making plans to meet 80% of the risks the results will be minimal by 20%.
- ✓ - Accurate and periodic monitoring according to the internal ISO for all interests at least once a year.
- ✓ Coordination with Algerian suppliers for the acquisition of locally made raw materials.
- ✓ - Permanent and continuous attendance at all events, demonstrations, economic exhibitions and school days.
- ✓ Directing to marketing in the African market.
- ✓ - Study the uses of PRV in order to diversify the company's product distribution lines, thus the use of fiberglass tubes in other fields, including the field of fuels.

- **Summary of answers related to control activities questions:**

Among the procedures implemented to control activities. Thus to achieve company's goals, we mention:

- ✓ Hiring qualified employees.
- ✓ Investing in a qualified and highly educated workforce.
- ✓ Providing adequate financial resources.

- ✓ Develop short, medium and long-term plans, follow up their implementation, and monitor deviations that may occur, in an effort to discover them before they occur or correct them in the necessary and correct time.
- ✓ Establish clear and strict instructions and procedures for the full commitment of the administration and all employees to achieve the set goals.
- **Summary of answers related to monitoring questions:**

External audit and control by the Vansut Authority once a year, "Vansut Algeria", which carries out the follow-up mission to determine the extent of the commitment of Maghreb Pipe Company to apply the quality and efficiency conditions of ISO automatically and immediately, and to be at the level of the certificate of conformity granted to it, including the process of monitoring the company's documentation and management system, including the quality of the raw materials used and the quality of the final product.

The company has installed the ERP program, which is a comprehensive program for the management system within the company, which has been implemented in all interests.

#### Analysis interview 06:

The production process begins with receiving the production order from the trade department, then verifying the possibility of completing this order according to the quality and quantity available in the factory stock, determining the quantity that will be used in production, as well as estimating the safety stock that must be provided, and this estimate is according to the shelf life of the raw materials considering It has a short shelf life. After confirming this, they proceed to production according to 4 production lines. If, for example, there is an outage in the raw material, the production line is changed in order to avoid interruption of the production process in the company. They develop a precautionary plan to avoid production delays, and set a period of 20 days as a maximum, and never exceed this period. Production plans are developed and the estimated production quantity for the next year is determined according to the previous year.

Analysis interview 07:**- Summary of answers related to control environment questions:**

The division, organization and documentation of responsibilities and tasks is summarized in the following stages:

The supply process of the Maghreb Pipe company passes through customs, where it has a broker who takes care of receiving the documents of the goods first and resettling them at the bank. After approving the documents of the raw materials, the broker receives them and sends a notice of receipt to the official of the supply department. The purchasing department official, in turn, informs the warehouse management official about the date of the order arrival, upon receipt of the order, the goods pass through the laboratory to ensure their quality and suitability.

The content's work of the supply unit is regard to raw materials, when the stock reaches the level of safety; the inventory management sends the requisition document to determine the quantity and type required in it, either at the request of the commercial department or upon request by factory order.

**- Summary of answers related to risk assessment questions:**

Risk	solution
Scarcity of raw materials	-Expanding the range of suppliers -Buying local materials but at a higher price
Late arrival of raw material	-Rely on safety stock -Buying local materials but at a higher price - Request for compensation or discount price for the next order
Regulatory laws changing	-Out of our controlling
Exchange rate change (High exchange rate)	-Out of our controlling
Arrival of raw material that mismatch (do not meet) the required specifications	-return the materials -Request for compensation -Delete the supplier from the company's supplier list

Table N° 10: Risks and their solutions

Source: by the student based on the interviews answers

**- Summary of answers related to control activities questions:**

Since raw materials are imported from abroad, the supply officer will either contact his previous or new suppliers by phone or email - as available. He asks them to show their prices, quality of their goods and the time of order preparation, I prepare a

table to compare offers and choose the best, then he chooses the right supplier, then he confirms the order.

- **Summary of answers related to information and communication questions:**

Relevant supply information is obtained by receiving the request from the inventory manager and the responsible for the commercial department. In accordance with their demand from the official suppliers and the purchase of raw materials, and according to the information obtained from the broker, the supply official sent instructions to other departments.

- **Summary of answers related to monitoring questions:**

Monitoring process is done according to the experience of the purchasing department official, based on the worst experience he had, and on the conservatism principle. All work is done in a program installed in the company's computers. For the purchasing department, the computers of this department show all the operations related to it, the date they were performed and the latest update, making it easier for the manager to monitor, follow up and correct the workflow.

**Analysis interview 08:**

- **Summary of answers related to control environment questions:**

From the figure N°21 (page 89), we can explain that the process of inventory management passes through an information system that processes all the inputs to it which are: delivery form, quality control report of materials and spare parts delivered, supply voucher, or a valuation of the cost of imported purchases. And resend them in the form of outputs represented in: Receipt voucher (entry voucher), purchase order state of consumption, exit certificate, valuation report of imported material inputs, and periodic report on the state of stocks.

Stages of the inventory management process:

At the beginning of the process, the employee analyzes the data received and classifies it according to its nature in order to know the course of the process. Two types of incoming data are specified, which are the commodity arrival voucher or the supply voucher.

According to the merchandise arrival voucher, the item is received and transferred to the quality control department. If the goods conform to the specifications and the required quantity, they are transported and placed in the warehouse. In case of non-conformity, the technical sales department is informed and notified in the form of a report which is sent to it.

The second case, if the nature of the input is a supply voucher, the stock is checked and estimation is made if the quantity available in the stock meets the supply voucher needs. If that is enough, the supply process is carried out using the exit voucher. But if it is insufficient, the quantity to be purchased must be reported to the purchasing department by the purchase order voucher.

- **Summary of answers related to risk assessment questions:**

The risks that this department can face are:

- ✓ Insufficient stock
- ✓ Change in orders
- ✓ Spoilage of raw materials

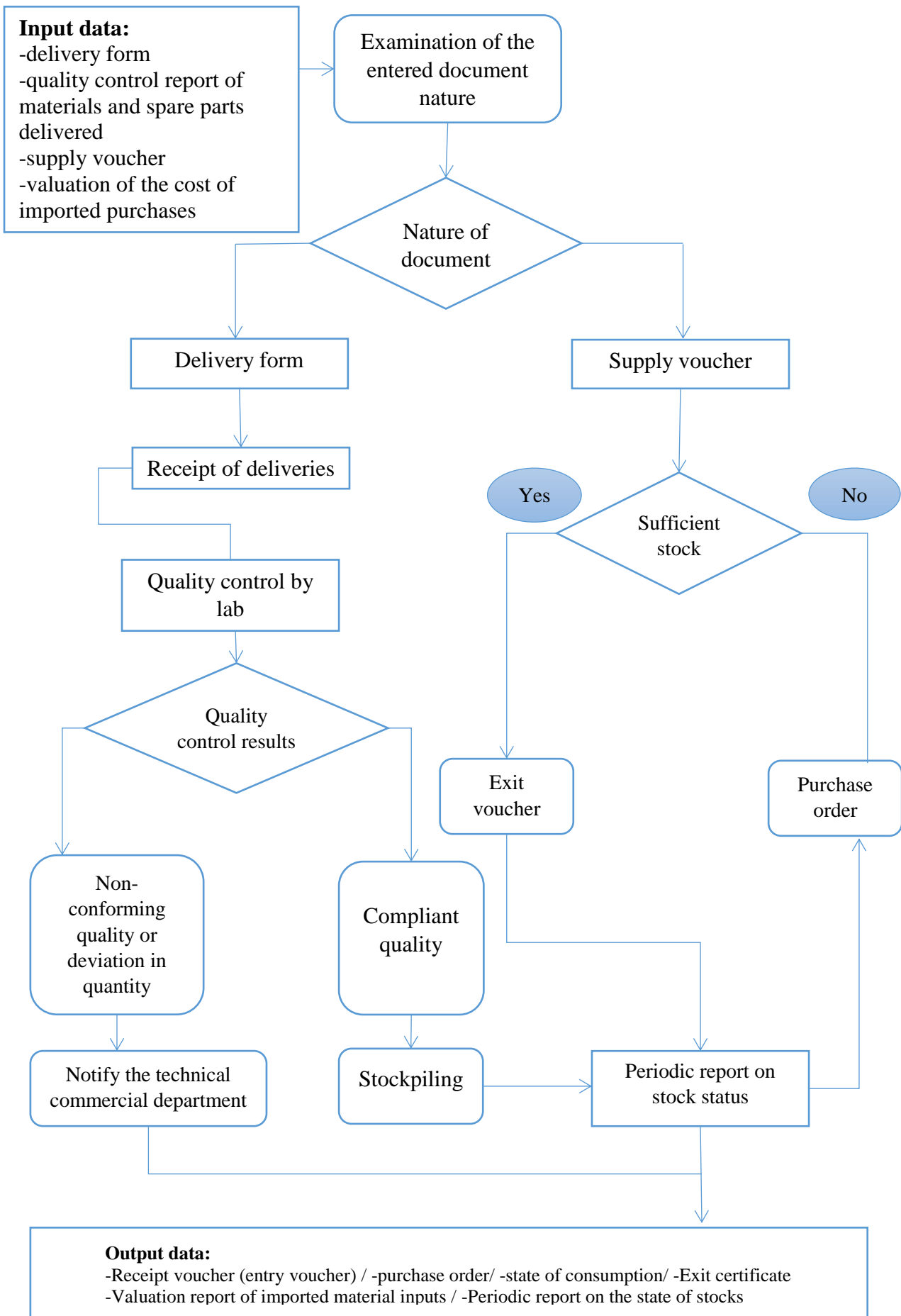
These risks happen rarely, but if they do we can control them easily.

- **Summary of answers related to control activities questions:**

Any processes or procedures occurring in this department are carried out according to authenticated supporting documents, and it cannot take place without this.

- Inventory is subject to a physical inventory process approximately monthly, especially with regard to the raw material.
- Given that the raw material has an expiration date, the stock is always in constant movement but never had it been out of stock.
- All operations are recorded in a program installed on the computer. These operations are presented to the company manager on his computer according to this program, which facilitates the process of monitoring, follow-up and evaluation.
- As for monitoring the workers in this department, it is in a direct way, and since there is a distribution of responsibilities, each person bears responsibility for his work, so he monitors his work by himself first.
- The manager is always aware of the progress of work and in case of any defect, he inquires about it.
- The operations that are performed in this section are: appendix N° (15)
  - ✓ Procurement process
  - ✓ Production process
  - ✓ Resource management process
  - ✓ Maintenance process
  - ✓ HSE process
  - ✓ Quality control process

Figure N° 24: Flowchart of the inventory management process



Source: by the student based on appendix N° (15)

- **Summary of answers related to information and communication questions:**

Communication between workers and officials is in the form of a documentary interaction and its transmission is in the upward and downward directions.

**Analysis interview 09:**

- **Summary of answers related to control environment questions:**

The directorate of realizations is responsible of the second activity of Maghreb Pipe company which is realization of projects and tendering, the company management divided responsibilities according to the necessary tasks, This unit have two departments, the first one is responsible for participation in tenders to bring projects, and the other is in charge of following-up on the implementation of the projects that have been invested in them. Maghreb Pipe Company have a local completion workshop here in M'sila where it help in implementing the project in an indirect way, thus it manufacture and prepare the installation parts and transport them to the project completion site and install them directly. In addition to three workshops in Galma, Taref and Tipaza where the manufacture and completion are in direct way.

The organizational chart in next page clarifies the division of these tasks according to the departments in this section.

- **Summary of answers related to control activities questions:**

The responsibilities in this section are divided according to a hierarchy, starts with the assistant manager of the company being in charge of this section, followed by the director of the realization division whose in turn oversees two departments, the deals and the construction departments. He receives reports from their officials on available projects and agrees to participate in tenders. He receives reports from their officials on available projects and agrees to participate in tenders, in addition to following up the completion of projects until deliver.

- **Summary of answers related to information and communication questions:**

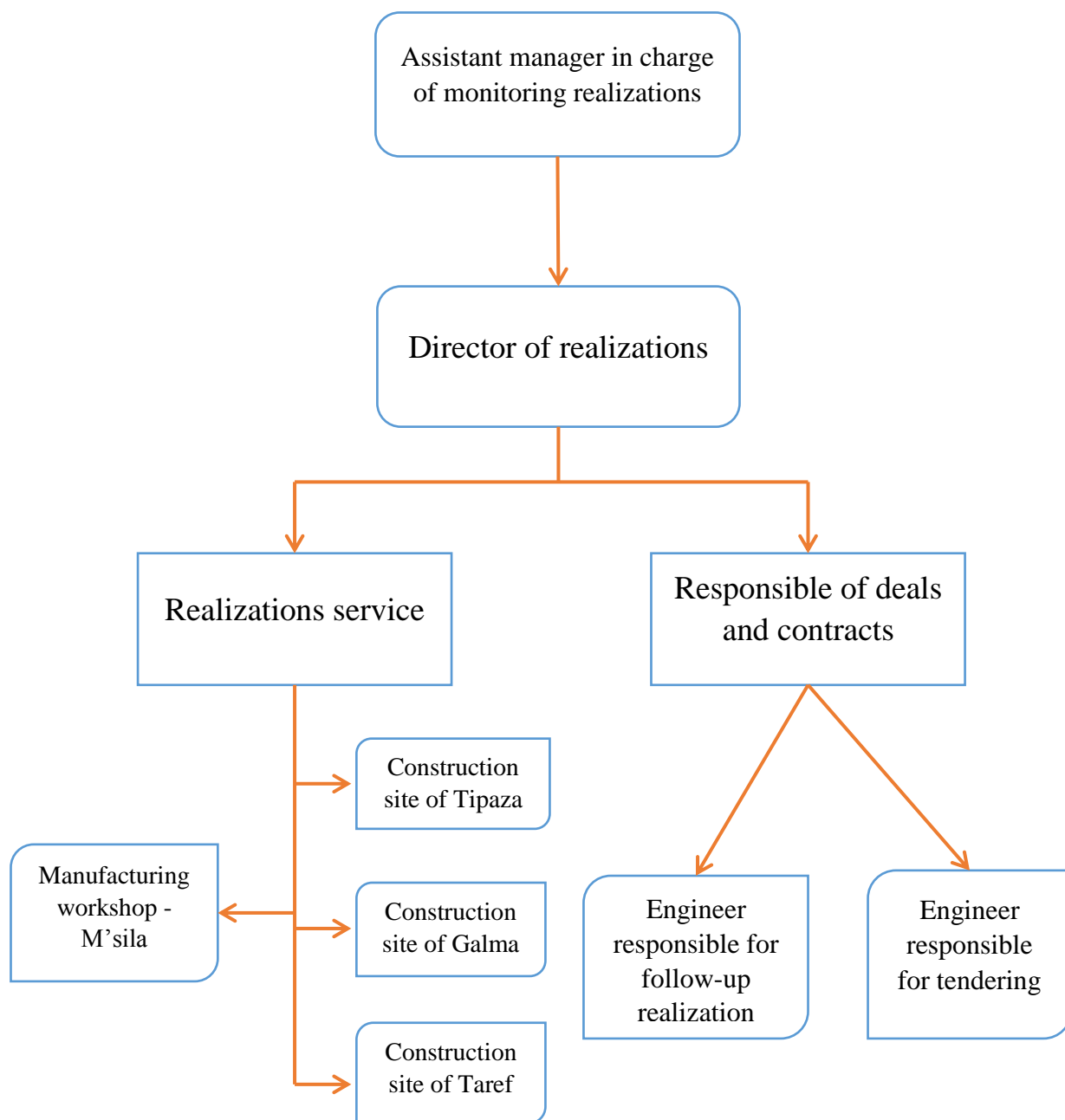
Work among the employees of this department is joint and consultative, in addition to continuous communication with the company's manager

- **Summary of answers related to monitoring questions:**

Control project files according to their prices, administrative documents and performing strategic diagnosis competencies, monitoring, guidance and supervision of employees for the proper progress of work and ensuring the achievement of goals.

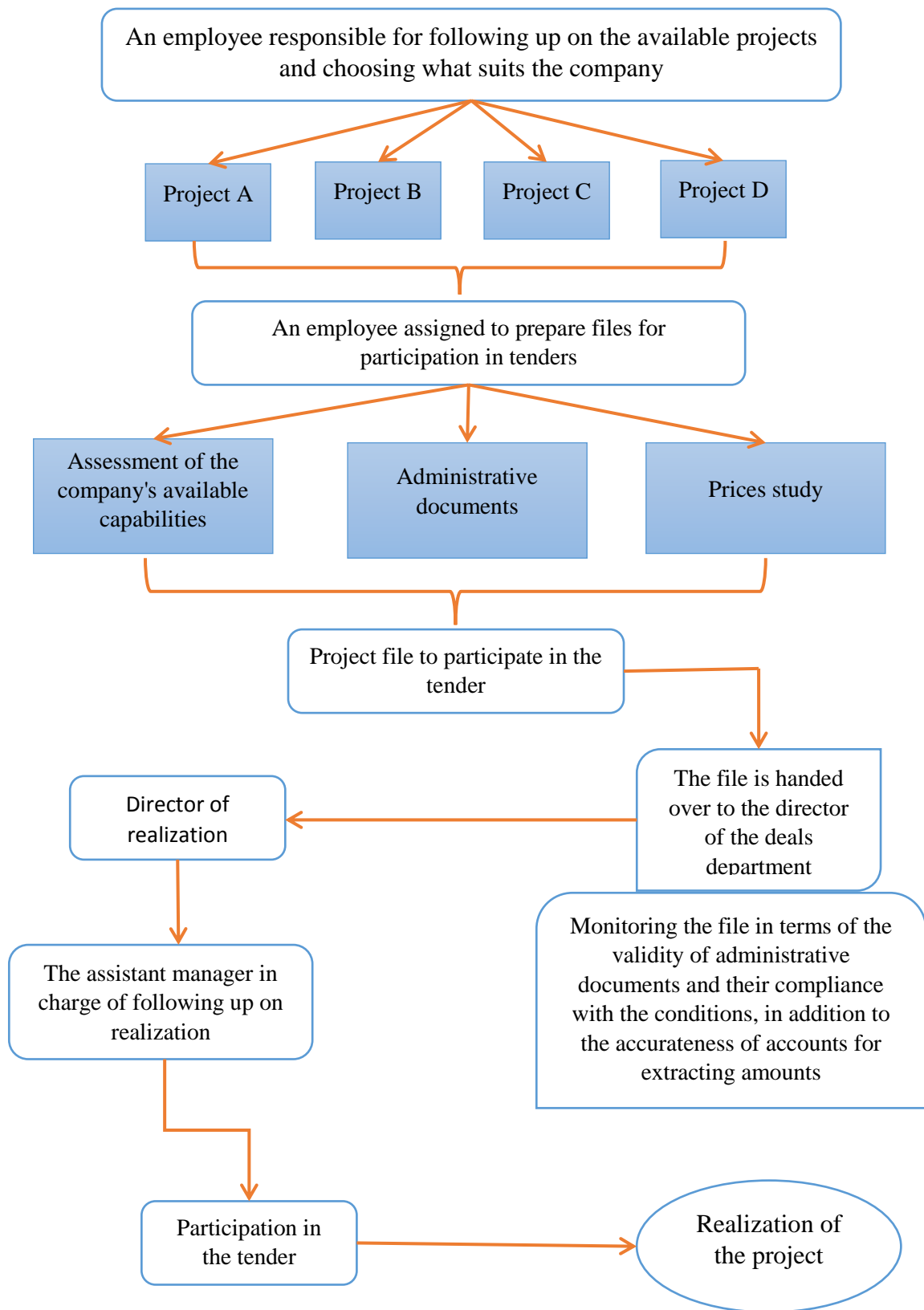
Figure N° 25: Organizational chart of realization direction

Source: By the student according to appendix N° (16)



Analysis interview 10:

- **Summary of answers related to control environment questions:**



*Figure N° 26: the Managing of the deals process and fetching projects*  
 Source: by the student based on the conducted interview

According to the figure above, the deals and contracts service interpreted the process of this unit as follow: there are two sections in this service:

- The first one is in charge for fetching the available projects at the level of the Algerian territory and chooses the most appropriate and best for the company. An employee follows a website that publishes advertisements for available projects and prepares a list of projects eligible for the company to participate in its tenders according to its field (irrigation - construction - public works) and the conditions set. Among the most important conditions that are included is that the company possesses a qualification certificate and a professional classification within a scale of 1 to 9 degrees. For Maghreb Pipe Company, it has a qualification certificate of grade 8 in irrigation and grade 7 in construction and public works. This degree is obtained by the company according to the material, financial and human capabilities that it owns, as well as the number of completed projects and their amounts.

The company selects projects based on:

- Near the place in order to reduce the costs of completion, for example, transportation.
  - The required conditions.
  - The quality of the works and materials that will be used in the project, where it is better that the works are not complicated and easy to complete.
  - It does not require many materials and large gear.
  - Projects that require the least number of working hand.
  - In order to choose a project, the official of this unit study the prices of the raw materials for the project through pro forma invoices that he receives from factory owners (for example, PEHD pipe) and then choose the lowest cost and duration.
  - He chooses projects that include the item of updating and reviewing prices, as the deadline to start completing a project is 3 months and 10 days, so he updates the prices in order to anticipate future prices as well as to avoid the high prices of raw materials and thus avoid the company incurring losses.
- The second part begins its mission after receiving the project and its role lies in a more oversight aspect.

- **Summary of answers related to risk assessment questions:**

The risks that can be found in this section are:

- Failure to complete projects on time.
- The completion of projects was halted due to administrative obstacles (especially with regard to obtaining administrative licenses from several departments).
- Competition when participating in tenders, but we do not consider it a risk more than we consider it an opportunity because the enterprise has excellent qualifications.

- **Summary of answers related to control activities questions:**

The completion of the project is tracked from an administrative point of view, prepares the monthly association of the busy work and its invoices, and delivers it to the company's accountant, in addition to preparing supplements. This includes unexpected work and additional work and deletion of non-productive work. Follow-up continues on a monthly basis until the completion and delivery of the project. The reports that are prepared monthly are followed up by the Head of Deals Department, and then forwarded to the Director of Achievements Department for approval.

- **Summary of answers related to information and communication questions:**

The workers in this department must be in constant contact in order to cooperate to reach the set goals and to exchange important information especially those related to projects, and this is what the workers strive to achieve.

Giving orders from the superior or giving notice from a subordinate should be either verbally or via e-mail, as well as holding periodic meetings.

- **Summary of answers related to monitoring questions:**

The monitoring of work is based on:

- The number of tenders that have been participated.
- Achieving goals and investing in the largest number of projects.
- Preparing periodic reports (verbal) and files to be handed over to the manager.
- Continuous communication between the two parties for the employees of this directorate.

## Notes made during the training period:

- ✓ Attendance of workers on time without delay.
- ✓ Their attendance at the company and their exit are monitored by the fingerprint system.
- ✓ Workers discipline and mastery at work.
- ✓ The accounting expert performs the actual inventory of the assets with one of the employees and matches the codes of the assets with their corresponding codes in the accounting documents and records.
- ✓ Approval of the external auditor on the financial statements of the company.
- ✓ Submit financial reports to the tax authority within the specified period.
- ✓ Posting instructions and directions in the company lobby. These instructions are clear and easy to understand.
- ✓ The manager holds periodic meetings with assistants and partners, and discusses the necessary staffs and the developments in the institution's activity.
- ✓ Communication between employees and superiors facilitates the workflow in the company.

## 7. Comparison between collected data and theoretical framework

Based on the collective data we mentioned, we can make a comparison between what is already in Maghreb Pipes and the theoretical part.

**-Internal control system components:**

## 1- Internal control environment

The control environment includes the overall attitude and actions taken by management regarding the importance of controls in their company. These actions are presented in five principles, if they occur, the implementation and effective operation of the internal control environment can be obtained. The following table shows whether or not this principle exists in this company:

Principles	yes	No	Notes
The oversight body and management demonstrate a commitment to integrity and ethical values	✓		—
The oversight body oversee the entity's internal control system		×	There is no internal control unit, but there is internal control between officials and employees, in addition to self-monitoring and internal control according to ISO-9001
Management establishes an organizational	✓		—

structure, assign responsibility, and delegate authority to achieve the entity's objectives.			
Management demonstrates a commitment to attract, develop, and retain competent individuals.	✓		—
Management evaluate performance and hold individuals accountable for their internal control responsibilities	✓		—

*Table N° 11: internal control environment evaluation*

*Source: By the student basted on collected data*

## 2- Risk assessment

The internal control framework identifies four principles associated with the risk assessment component, in the following table; their practical application can be compared as follows:

Principles	yes	No	Notes
Management identifies, analyze, and respond to risks related to achieving the defined objectives.	✓		—
Management considers the potential for fraud when identifying, analyzing, and responding to risks	✓		—
Estimates significance of risks identified.	✓		—
Determines how to respond to risks	✓		—

*Table N° 12 : Risk assessment evaluation*

*Source: By the student*

## 3- Internal control activities

Internal control activities are policies, procedures, and the organizational structure of a company. Internal control activities can be either preventive, or detective. The following table shows whether or not these activities are implemented in Maghreb Pipe Company according to the internal control framework:

Principles	yes	No	Notes
Management designs control activities to achieve objectives and risk responses.	✓		—
Management designs control activities for the entity's information system	✓		—
Management implements control activities	✓		—
The company selects and develops general control activities over technology to support achievement of objectives	✓		—
Addresses segregation of duties.	✓		—

Management establishes related technology infrastructure monitoring activities	✓		—
management takes corrective action	✓		—
Management performs using competent personnel.	✓		—
Management reassesses policies and procedures.	✓		—
Establishes responsibility and accountability for executing policies and procedures.	✓		—

*Table N° 13: Internal control activities evaluation*

*Source: by the student based on data analysis*

#### 4- Information and communication

Principles	yes	No
Reliable informations are used and communicated to those who need it.	✓	
supervisors communicate duties and responsibilities to the employees and employees alert management to potential problems	✓	
Continuous communication within and between the various levels and activities of the company.	✓	
Management uses quality information	✓	
Management internally and externally communicate the necessary quality information	✓	
Management obtains and uses relevant, quality information to support the functioning of internal control	✓	

*Table N° 14: Information and communication evaluation*

*Source: by the student based on data analysis*

#### 5- Monitoring

After internal controls are put in place, their effectiveness needs to be periodically monitored to ensure that controls continue to be adequate and continue to function properly. . The following table shows whether or not these controls are implemented in Maghreb Pipe Company:

Principles	yes	No
Selecting, developing and performing continuous or discrete evaluations to ensure the existence and functioning of the internal control components	✓	
Evaluate deficiencies in internal control and communicate them in a timely manner to the parties responsible for taking corrective action	✓	
Evaluating results	✓	

Monitoring corrective actions	✓	
Management ensure identified internal control deficiencies are remediated on a timely basis	✓	
Management establish monitoring activities to monitor the internal control system and evaluate the results	✓	

*Table N° 15: Monitoring evaluation*

*Source: by the student based on data analysis*

**-Internal control system basics:**

Basics	yes	No	Notes
Organizational plan	✓		Flexible, simple and clear organizational structure that divides responsibilities in a controlled manner
A sound accounting system	✓		Clarity and simplicity of the accounting system, following the financial accounting system as stipulated by law, and using the latest accounting applications software
Separation of Responsibilities	✓		Separate the responsibilities of employees and each individual is responsible for the results of his work to reduce the chances of fraud or the possibility of unintended errors
Competent personnel	✓		The personnel handling the control system are highly qualified
Controlling performance	✓		Performance is evaluated and monitored according to established plans and goals
Internal Auditor		×	There is no internal auditor, the person responsible for the Department of Finance and Accounting is the person who performs the internal audit function in addition to appointing an external auditor
Internal control department		×	-There is no internal control department

			<ul style="list-style-type: none"> <li>-There is an internal section for security</li> <li>-Internal control is distributed at all levels of departments and is placed in sequence from superior to subordinate according to the hierarchy of responsibilities</li> <li>-The internal ISO for all interests at least once a year.</li> <li>-External audit and control by the Vansut Authority once a year</li> </ul>
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*Table N° 16: Internal control system basics*

*Source: by the student based on data analysis*

### 8- Evaluating the internal control system of Maghreb Pipe Company

We evaluated the internal control system of Maghreb Pipe Company by verifying whether it has the properties and characteristics of effective internal control system using SWOT analysis according to the method followed by the company:

Characteristics of Maghreb pipe internal control system	strength point	Weak point
Well-designed organizational structure	✓	
Define specialties and assign responsibilities	✓	
well organization of work	✓	
Well-designed Accounting System	✓	
Competent and experienced employees	✓	
Average and high educational level of the employees (university graduates)	✓	
Division of Work	✓	
Adoption of a training program for human resources in its various branches	✓	
Separation of operational responsibility from record keeping	✓	
Permanent supervision	✓	
Sound practices of administration	✓	
Absence of internal Audit		✗
Effective inventory management program and helps the company to ensure that the inventory is not interrupted	✓	

Dividing, classifying and organizing inventory according to its type of raw materials and other supplies	✓	
Inventory management is carried out according to an information processing system	✓	
Signing and ratification is considered approval of the process and evidence of its actual occurrence	✓	
Absence of an internal control unit		×
The company monitors its inventories and assets through actual inventory	✓	
Provide the required liquidity	✓	
Good reputation with customers in the market	✓	
Controlling over the human resource management process	✓	
The use of technology in surveillance work - modern software	✓	
One of the partners is the main course of the company	✓	
Self-monitoring of each individual and bearing the results of his work is one of the most important control activities in the company	✓	
Not using discretionary budgets		×
The internal ISO for all interests at least once a year	✓	
External audit and control by the Vansut Authority once a year	✓	
Using the ERP program that has been implemented in all departments as a tool for management, control and evaluation	✓	

*Table N° 17: Internal evaluation of internal control system of Maghreb Pipe Company*

*Source: by the student based on the practical applied traineeship*

External evaluating risk	Opportunity	Threat
The economic crisis in Algeria		×
Marketing in the African market	✓	
Corona virus crisis		×
Participation in meetings, demonstrations and study days	✓	
Political instability in Algeria		×
The scarcity of raw materials and their import from abroad		×
Issuance of a law to encourage national products	✓	
Weak legal systems and market monopoly by the government		×

*Table N° 18: external evaluation of internal control system of Maghreb Pipe Company*

*Source: By the student based on the practical applied traineeship*

**Conclusion:**

In order to achieve the requirements of the case study, we conducted a practical traineeship so as to compare the literature of the internal control system and the reality of its application in the Algerian economic institutions, Maghreb Pipe Company was taken as a sample to implement this study.

In this chapter, we first introduced the definition of the company under study and presented a historical overview of the foundation of the Maghreb Pipe Company to this day, in addition to providing a technical card on its activity.

Furthermore, we relied mainly on collecting and analyzing data and conducting interviews with various active administrative workers who occupy important positions in this company.

After collecting data, we analyzed, presented and compared them with the theoretical side, in order to evaluate the effectiveness and efficiency of the internal control system applied to it, and its main role in risk management process.

In assessing the internal control system and its role in risk management, we also relied on the SWOT analysis according to the method adopted by the company. We identified the strengths and weaknesses of the internal control system, opportunities and threats and how Maghreb Pipe Company deals with them.

The efficiency and effectiveness of the internal control system and the company's good management of risks led to the effective application of governance and adherence to its principles, and thus helped Maghreb Pipe Company to gain several advantages related to good performance and it considered one of the successful companies in Algeria.

**General conclusion**

## General conclusion

The internal control system is considered one of the basics of economic companies and plays an important role in improving their performance and ensuring the achievement of objectives.

Our study started with a problematic research question which is *“What is the role and the Importance of the Internal control system in risk management In Maghreb PIPE company?”*, and it has been answered by addressing the two previous chapters, theoretical and empirical, these two parts were compared in order to reach the results and to verify the validity of the hypotheses put forward, Thus, evaluating the internal control system of Maghreb Pipe Company and revealing its role in risk management.

## The finding of the study

### Theoretical side results

After our research and study of the theoretical aspects based on books, articles and previous studies that treated the issue of the internal control system in the economic institutions and its role in risk management, we reached a number of results that can be presented in the following points:

- 1- The internal control system is a process consisting of ongoing tasks and activities it is way to achieve a purpose, not a purpose itself. Thus it is a practicability effected by an entity’s board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives, effectiveness and efficiency of operations, reliability of financial reporting, compliance with applicable laws and regulations.
- 2- The internal control system seeks to achieve many goals, the first goal is to achieve the effectiveness and efficiency of operations related to basic business objectives, and the credibility of financial reports, in addition to ensuring compliance with laws, regulations, contracts and administrative directives, as well as seeking to ensure that detected errors receive immediate corrective action and are reported To the appropriate level of management.
- 3- There are different types of internal control that can be implemented in its system which are directive, preventive, compensating and detective controls.
- 4- The internal control system consists of basic elements that integrate with each other in order to achieve the goals. These components differ according to the issuing authority of the theoretical framework of the internal control system. We discussed three frameworks COSO, COCO, and Turnbull guidance. The most

reliable framework COSO, which included the components of the internal control system among five basic components represented in the internal control environment, risk assessment, control activities, communication and information and monitoring.

- 5- The internal control system is based on 3 basics, through which its effectiveness can be evaluated, namely: accounting, administrative, and internal setting basics.
- 6- Since the internal control system is controlled by people, it faces some restrictions that can hinder the functioning of the system, namely: judgment, breakdowns, management override and collusion.
- 7- It can be said that the internal control system is effective on the basis of: well-designed accounting system, competent personnel, division of work, separation of operational responsibility from record keeping, Supervision, Sound practices of administration, Internal audit and internal controls units.
- 8- There is an integral relationship between the internal control system, risk management and governance; they form a coherent and strong system in case of the correct and effective application.

### Empirical side results

We conducted a comparative study between what we presented in the first chapter and the reality of its application in the Maghreb Pipe Company, we reached the following results:

1. The administrative of Maghreb Pipe Company clearly allocates tasks and shares responsibilities between workers and officials.
2. The Maghreb Pipe Company organizes the work and the division of tasks according to organizational structures well-designed that strives to facilitate tasks and understand responsibilities among workers without any overlap.
3. Maghreb Pipe Company have Well-designed Accounting System based on qualified and experienced accountants, using the ERP program, instant recording of financial and accounting operations, Carrying out periodic reconciliations between assets and their documents, The presence of an organized book group and divided accounts into categories that facilitate the process of recording, following up and controlling operations.
4. Employing qualified and highly educated workers and acquiring them with experience and skills.
5. Maghreb Pipe Company seeks to train workers in training courses and study days to ensure the efficiency of its workers and the effectiveness of their performance.

6. The Maghreb Pipe Company sets short, medium and long-term plans and sets performance evaluation criteria in order to avoid any internal deviations in the company.
7. The company puts a list of its goals, corresponding to the risks that may hinder the achievement of these goals and the actions that are an internal line of defense for the company.
8. The Maghreb Pipe Company is distinguished by obtaining the ISO-9001 quality certificate version 2015 and strives to preserve it and move forward, which governs it in the internal system of the company and ensures its efficient performance.
9. The company performs internal control activities based on the ERP program, which facilitated its oversight and ensured that no errors were exceeded and the circle of fraud or collusion was reduced to a minimum.
10. Maghreb Pipe management carries out the risk management process in accordance with the ISO risk management system. It identifies and classifies risks, determines whether they constitute a threat or an opportunity, and sets the necessary measures to either confront and address it or seize the opportunity.
11. The use of technology makes it easy for the organization to communicate between employees and superiors in terms of giving orders or reporting operational matters or inquiries, in addition to relying on it in preparing reports and in transmitting information through e-mail or Viber.
12. The company was able to cover the weaknesses of its internal control system represented in the lack of an internal audit with the help of External audit and control by the Vansut Authority once a year.
13. Maghreb Pipe Company has an efficient and effective internal control system that has components which are integrated with each other in achieving the established goals and thus enabled it to control the strengths and weaknesses within the company and gain comfort in the internal management. Thus focus all its attention on the external environment of the company and strive to seize opportunities and continuous development, as it seeks to export abroad and access to the global level.

### **Hypothesis testing**

The results gathered concluded interesting findings to test the proposed hypotheses which were put at the beginning of our study and to answer the problematic research question.

✚ First hypothesis:

Regarding the first hypothesis, which assumes that *the Maghreb Pipe Company is aware about the importance of the internal control system*, and through the interviews conducted with the company's officials, it was clarified that they are aware about the importance of the internal control system through their quest and interest in setting procedures and instructions that provide the basics of its application in the company and achieving its goals. So this confirms the validity of this hypothesis.

✚ Second hypothesis:

The second hypothesis in this study claims that *there is an integrative relationship between the internal control system and risk management*, and it was confirmed by the results collected in both the first and second chapters. In the theoretical framework, we found that risk management is one of the basics of the effectiveness and efficiency of the internal control system. The existence of an effective internal control system contributes to achieving good risk management and thus an integrative relationship between them. This complementary relationship has a role in achieving corporate governance principles. For the empirical study, we confirmed this integrated relationship through our vision that Maghreb Pipes Company adjusts risk management based on its internal control system.

✚ Third hypothesis:

Concerning the third hypothesis, which stipulates that *the implementation of internal control system in Maghreb Pipe Company influences risks* have been approved, We found that the company manages and identifies its risks using ISO system and SWOT analysis, and this use helps it address all weaknesses and gain strengths that enable it to face the outside world in avoiding threats and seizing opportunities.

✚ Fourth hypothesis:

In connection with the fourth and final hypothesis which supposed that *the Maghreb Pipe Company is committed to an acceptable extent to implement an effective and efficient internal control system to reduce risks*. Based on the results obtained from the comparative approach and through the tables of evaluation of the internal control system, we concluded that the internal control system applied in the company is effective and efficient to a high extent, and this confirms the validity of our hypothesis.

## **Suggestions and recommendations**

On the light of the results of our study, some recommendations are proposed to enhance the performance of the economic institutions in Algeria generally and Maghreb pipe Company particularly.

- ✚ The need to maintain the effectiveness of the efficiency of the internal control system in the company and to seek to provide an appropriate environment for its application in terms of managers and workers.
- ✚ Attempting to use technology and the use of ERP software to facilitate work, monitoring and evaluation.
- ✚ Maintaining high quality of products and striving to develop and expand production lines.
- ✚ Seeking to develop the skills of workers and ensuring their continuous training in order to keep pace with developments and open an opportunity for training university graduates in order to gain experience.
- ✚ The attempt to move towards supplying raw materials locally, other than importing, in order to reduce costs on one hand and in order to encourage the local products and develop the national economy.
- ✚ The necessity of maintaining the ISO-9001 certification and seeking to expand the marketing circle from locally to exporting abroad and entering the African and international market.
- ✚ The need to provide a good economic climate, establish laws that support local production, encourage national companies, and address the problem of market monopoly by the government.
- ✚ The necessity of professional ethics and integrity helps in achieving self-monitoring and avoiding fraud and internal risks.
- ✚ The necessity of raising awareness of the role of the internal auditor and its importance in ensuring the effectiveness of the institution's internal control system.
- ✚ Periodically reviewing the internal control system and the accounting system.
- ✚ Considering general interest above the personal interest of the organization.
- ✚ Benefit from the research conducted in the company.

## **Study prospects**

Through what we discussed in this study and through the results reached, this study can be a link between previous research thus to add some developments to enrich it, and give suggestions for future study topics:

- ✚ The role of the internal auditor in enhancing efficient and effective internal control system.
- ✚ The role of technology in improving and regulating accounting work in large companies.

- ✦ A comparative study between the different frameworks of the internal control system -COSO, COCO and Turnbull frameworks.
- ✦ The role of estimated budgets in enhancing the internal control system.
- ✦ The role of the internal control system in corporate governance.
- ✦ The role of risk management in improving the financial performance of economic institutions.

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# Appendices

## Appendix N° 1: Technical card of Maghreb Pipe Company



### مغرب بايب للصناعة



### بطاقة تقنية

اسم الشركة :	مغرب بايب للصناعة
تاريخ التأسيس :	أكتوبر 2004
تاريخ الدخول في الإنتاج :	سبتمبر 2009
الطبيعة القانونية :	شركة ذات مسؤولية محدودة (ش.ذ.م.م)
رأس المال الاجتماعي :	694.400.000 دج
الموقع :	المنطقة الصناعية - المسيلة
المساحة الاجمالية :	03 هـ 64 آر 43 سآر
المنتوج المصنع :	أنظمة القنوات المقواة بالألياف الزجاجية
مجموعة المنتجات :	الأنابيب، قطع التركيب و الملحقات الخاصة الأقطار : من 80 ملم إلى 2600 ملم
الطاقة السنوية للإنتاج :	أصناف الضغط : من 01 بار إلى 40 بار و أكثر. الصلابة : 2500، 5000، 10000 ن/م <sup>2</sup> وأكثر.
العمال :	500 كلم أنابيب من مختلف الأقطار مع قطع التركيب و الملحقات 400 إطار و عامل.
مجالات الاستخدام :	- خطوط الصرف الصحي - منظومات الري - منظومات معالجة فضلات المياه - مخارج تصريف مياه البحر - منظومات نزع الكبريت - مجاري المياه الصناعية - خطوط الانتاج بالنظام المستمر
الآلة الانتاجية :	- خطوط تزويد المياه - منظومات إطفاء الحريق - نقل السوائل الأكاله - نظام تبريد المياه - معامل تحلية المياه - مشاريع التبريد المركزي

- 2 -

- 03 خطوط انتاج بالنظام المتقطع
  - ورشة انتاج قطع التركيب و ملحقات الأنابيب.
  - ورشة انتاج القطع الجاهزة
- مغرب بايب للصناعة متحصلة على شهادة المطابقة العالمية ايزو (ISO) نسخة 2008:9001.



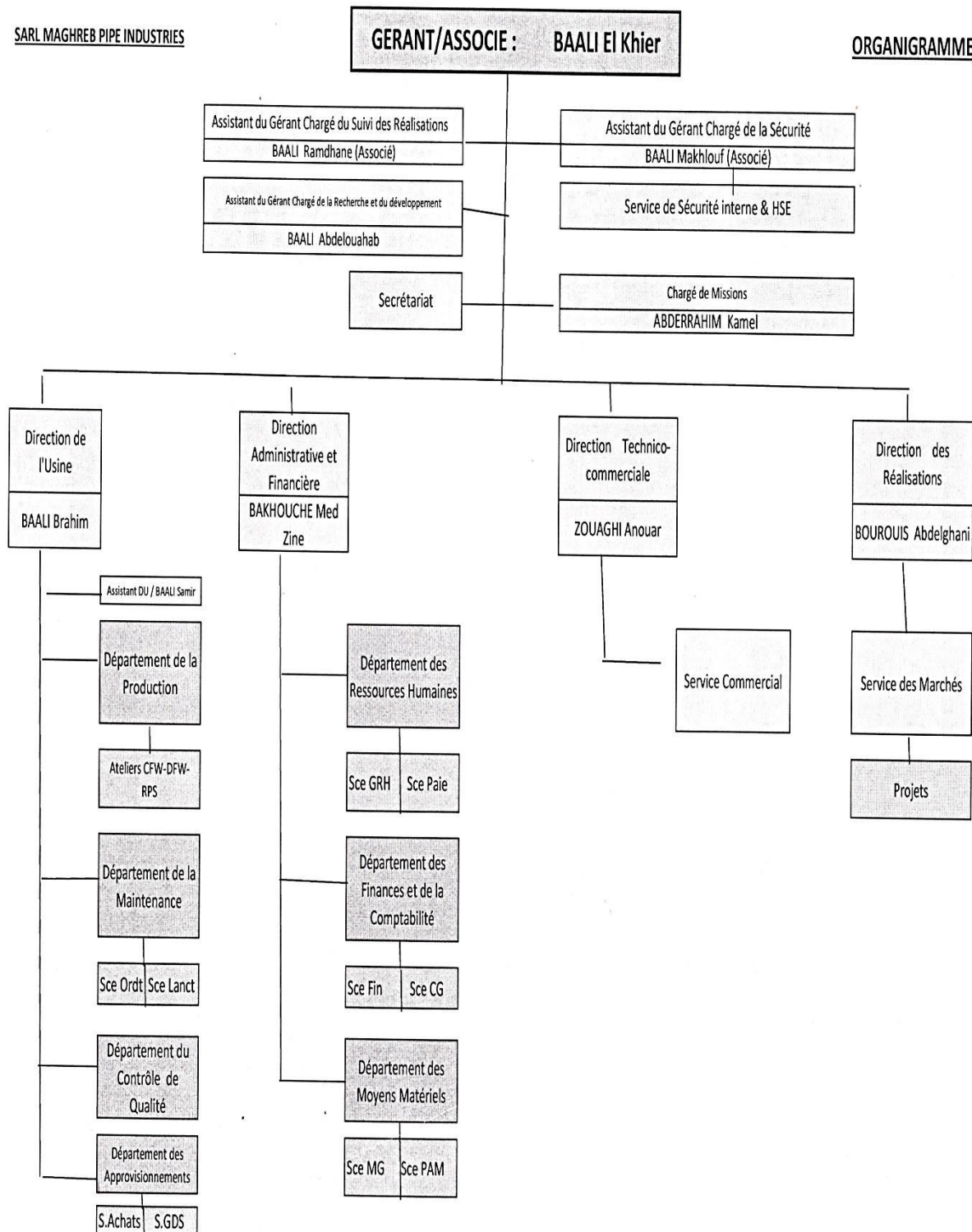
**MAGHREB PIPE Industries**



## Appendix N° 2: Organizational structure of Maghreb Pipe Company

SARL MAGHREB PIPE INDUSTRIES

ORGANIGRAMME



**Appendix N° 3: Interviews questions**

Interviews questions	
Component	Questions related to the Component
<b>Control environment</b>	Is your company aware about internal control system?
	Does the company have an internal control department?
	Are there any internal control systems? If yes, what are they? Preventive, Directive, or Detective
	Who is responsible for setting them up?
	Who is chiefly responsible for ensuring that internal Control measures are adhered to?
	Does the company have an internal audit unit?
	Does the company set future plans that it seeks to achieve?
	Have all important expectations or "policies" been formalized and communicated to your personnel?
	Is there adequate segregation of duties in the institution?
	Were all employee levels in the company represented in establishing the objectives?
	Does your company have well-staffed employees?
	Does the company use the authentication method?
	Does the company have an accounting guide that guides it in recording its operations?

<b>Risk assessment</b>	Does overall strategies for managing important risks been established?
	Do you provide adequate physical security for cash and other assets subject to theft?
	Do you track the location and use of all equipment?
	What types of risks do you face?
	How do you deal with these risks?
	Are individuals who control assets prohibited from also recording transactions related to those assets?
	Is key information about your company's operations identified and regularly reported?
<b>Control Activities</b>	Are there documented objectives for all key activities of the company?
	Does your company have financial performance system?
	Do employees undergo training courses?
	Has the external auditor ever refused to certify the financial statements of the company?
	Has the tax authority ever refused the tax declaration of the company?
	Does the company do an actual inventory of assets?
	What are the control activities carried out by the company?
	How does the manager monitor the company's operations?
	How is your work going?

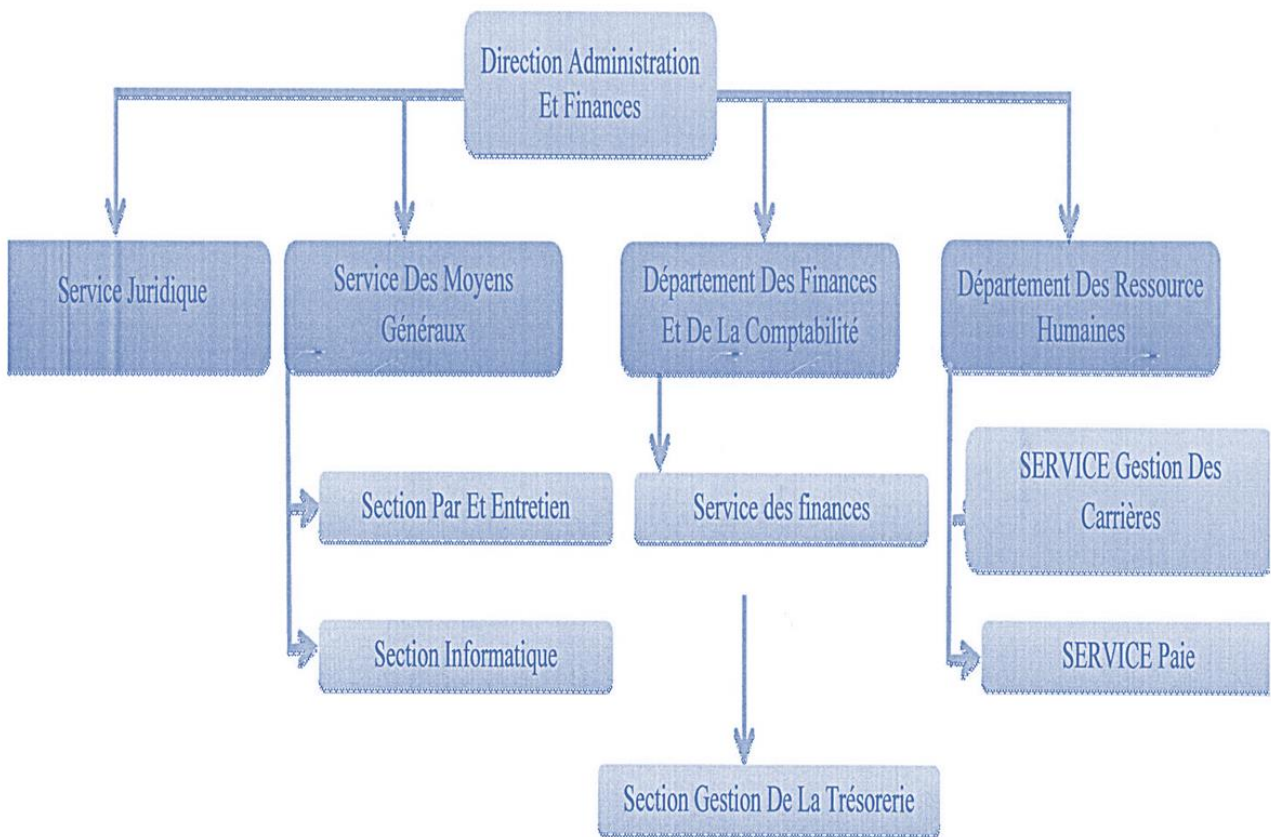
<b>Information and communication</b>	Do you receive relevant information regarding legislation, regulatory developments, economic changes, or similar external factors that may affect your company?
	Are client complaints taken seriously, investigated, and acted upon?
	How is the communication between employees, and between the employee and the official?
<b>Monitoring</b>	Do you routinely evaluate the overall effectiveness of your internal control system?
	How often do you normally prepare reports and other returns to management?
	What are the criteria adopted by the company in evaluating its performance?

**Appendix N° 4:** Organizational structure of administrative and financial direction


**MAGHREB PIPE INDUSTRIES**

Sarlat capital social de 694 400 000 DA  
RC :04B0562753

Tuyaux et raccords en PRV



## Appendix N° 5 : Level assessment test

 <p style="text-align: center; font-size: small;">Tuyaux et raccords en PRV</p>	<b>FORMULAIRE</b>  <b>FICHE D'ÉVALUATION DES COMPÉTENCES</b> <b>MAÎTRISE</b>
ER 6.2.2-20 Version: 01 Date : 29/12/2015 Page : 1/4	

ANNEXE : 06

Intitulé du métier :

Niveau requis des compétences :	Côtes-Nbre de points (1)					Total(2)
	1	2	3	4	5	
Nom : Prénom : <b>Savoir faire (Être capable de) :</b> 1. Sens de l'analyse: Capacité d'aborder une situation dans son ensemble afin d'identifier toutes les dimensions nécessaires, dans le but d'atteindre un objectif précis.						
<b>Savoir faire (Être capable de) :</b> 2. Assimilation des règles et procédures : Capacité d'assimiler et d'appliquer les procédures de travail, les orientations de la hiérarchie et les règles de sécurité.						
<b>Savoir faire (Être capable de) :</b> 3. Capacité à rendre compte Aptitude à tenir les supérieurs hiérarchiques ainsi que les collaborateurs au courant du déroulement des activités.						


**Savoir (1 = aucune notion, 2- connaissance faible, 3 = connaissance de base, 4 = bonne connaissance, 5 = connaissance approfondie)**

Savoir (Connaître de) :	Côtes-Nbre de points (1)					Total(2)
	1	2	3	4	5	
4. Connaissances techniques de la fonction: Maîtrise des connaissances, nécessaires à l'exercice de sa fonction (à l'atteinte des objectifs ou à l'exécution de ses tâches).						

 Travaux et raccords en PRV	<b>ER 6.2.2-20</b>
	<b>Version: 01</b>
	<b>Date : 29/12/2015</b>
<b>FICHE D'ÉVALUATION DES COMPETENCES</b>	
<b>MAITRISE</b>	

**Compétences transversales (savoir -être, aptitudes, qualités....)**

Niveau requis des compétences :	Côtes-Nbre de points (1)					Total(2)
	1	2	3	4	5	
<b>Nom :</b> <b>Prénom :</b> <b>Savoir Être (Aptitude à) :</b> 5. Assiduité et Ponctualité : Respecte l'horaire de travail, maintient une présence soutenue tout au long de son travail						
<b>Savoir Être (Être capable de) :</b> 6. Esprit d'équipe : Capacité d'apporter une contribution et une collaboration à un groupe de travail dans le but d'atteindre des objectifs						
<b>Savoir Être (Être capable de) :</b> 7. Sens des relations humaines :						
<b>TOTAL (3)</b>						<b>/70</b>
<b>NOTE FINALE (4)</b>						<b>/20</b>

	<b>FICHE D'EVALUATION DES COMPETENCES MAITRISE</b>	
	<b>ER 6.2.2-20</b>	
	<b>Version: 01</b>	
	<b>Date : 29/12/2015</b>	
		<b>Page : 3/4</b>

(1) Pour chaque compétence, mettre une croix dans la colonne correspondante au degré de maîtrise observé (en se basant sur les comportements décrits et sur la signification des côtes -1,2,3,4,5 – donnée ci-après) :

Côtes	Signification
1	Compétence absente
2	Compétence faible
3	Compétence à développer
4	Compétence à parfaire
5	Compétence acquise


(2) Traduire ces côtes (1,2,3,4) en nombre de points correspondants en utilisant le tableau ci-dessous :

Côtes	Nombre de points
1	0
2	3
3	6
4	8
5	10

- (3) Sommer le nombre de point sur 70  
(4) Diviser par 3.5 le total sur 70 pour obtenir une note sur 20

Visa du Responsable

Date : .....

 Tuyaux et raccords en PRV	<b>FORMULAIRE</b>		ER 6.2.2-20
	<b>FICHE D'EVALUATION DES COMPETENCES MAITRISE</b>		Version: 01
			Date : 29/12/2015
			Page : 4/4

**SYNTHESE DE L'EVALUATION DES COMPETENCES**

APPRECIATIONS	
Point forts	Points à améliorer
- .....	- .....
- .....	- .....
- .....	- .....
<b>ACTIONS D'AMELIORATION PROPOSEES</b>	
Actions de Formation	Affectation
Promotion	

<b>EVALUATEUR</b>	<b>Avis de la hiérarchie N+1</b>
Le Responsable hiérarchique : .....	.....
M..... Date : ..... Visa :	M..... Date : ..... Visa :

Appréciation et Validation du Directeur de la Structure : .....	
.....	
DATE : .....	Visa :
.....	
<b>Décision de Monsieur le Gérant</b> : .....	
.....	
DATE : .....	Visa :



## Appendix N° 7: Pro forma invoice

19/5/2016

PROFORMA : N° 0091-16



### MAGHREB PIPE Industries

Sarl au capital social de 694.400.000 DA  
 RC : 04B0562753 NIF : 000426056275372  
 AI : 26012003466 NIS : 000426011135558



## Facture Proforma

N° 0091-16  
Date: 17/05/2016

**Doit:**

**Client:** (Nom, Prénoms ou raison sociale)

**SARL MECHERI**  
**Adresse: Bordj Bou Arréridj**  
**RC N°: 98 b 0462214**  
**NIF N°: 0998340046221428**  
**AI N°: 34017101477**

Valable jusqu'au : 16/06/2016

N°	Désignation	Unité	Quantité	Prix Unitaire	Montant	Remise		Montant HT
				HT		%	Montant	
1.	Tuyau PRV DN600 PN6 SN10000 17	ML	32,30	11 600,00	374 680,00		-0,00	374 680,00 63 695,60
<b>TOTAL Hors Taxe</b>								374 680,00
<b>TVA 17%</b>								63 695,60
<b>TOTAL TTC</b>								438 375,60
<b>Timbre</b>								0,00
<b>TOTAL A PAYER</b>								438 375,60

Arrêté la présente Facture Proforma à la somme de : Quatre cent trente-huit mille trois cent soixante-quinze dinars et 60 centimes.



Cachet et Signature

**BOUDJELLAL SAID**  
**CHEF DE SERVICE**  
**COMMERCIAL**

**Siège Social :** Nouvelle cité administrative – Promotion BAALI – M'Sila 28 000 – ALGERIE  
**Usine :** Zone Industrielle – M'Sila 28 000 – ALGERIE Adresse postale : BP 1174 RP M'Sila 28 000 – ALGERIE  
 Banque Extérieure d'Algérie BEA Agence de M'Sila 047 – Compte : 002 00047 0472200234-80  
 Tel. : +213 (0) 35 55 12 89 Fax : +213 (0) 35 55 42 38 E-mail : info@maghrebpipe.com Web : www.maghrebpipe.com

Appendix N° 8: Purchase order

	<p><b>S.A.R.L MECHERI</b>                  Entreprise des Travaux de Routes et Aéroports                  Route de M'sila A38 Bordj Bou Arreridj                  Tél : 035.67.10.69 fax : 035.67.10.75 Email : sarlmecheri@yahoo.fr</p>
-----------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

NIF :099834046221428 / N° Article:34017101477 / N°RC:34/00-0462214 B98 Modifié Le18/08/2010 / N° Compte :CPA 00400309400305701176

**BON DE COMMANDE** N° 000838

D.A N°: ..... Du : .....


BBA Le: 18/05/2016

Fournisseur : MAGHREB PIPE Industries Adresse: M'sila


N°RC: ..... NIF : ..... N° Article: .....

Facture Proformat N° : 0031-16 Date : 17/05/2016

N°	Désignation	U.M	Quantité	Prix Unitaire	Montant
<u>01</u>	<u>Tuyau PVC DN1600 PN16 SMI6000</u>		<u>32.30</u>	<u>11600.00</u>	<u>374680.00</u>
Total H.T					<u>374680.00</u>
TVA 17 %					<u>63695.60</u>
Total TTC					<u>438375.60</u>

Visa Chef Département Appro.	Le Gérant Cachet et Signature
<p><b>MERBOUCHE Saïd</b>                  Responsable des                  Approches et Achats</p> 	

**Appendix N° 9: Intervention order form**

 <p>Tuyaux et raccords en PRV</p>	<b>FORMULAIRE</b>	ER 7.2-02_00
	<b>ORDRE D'INTERVENTION</b>	Version : 00
		Date : 01 Mars 2012
		Page 1 / 1

N° : 06

Date : 17/02/2015

BC N° :

Pour client : MPI oued souf

N°	Désignations	Qté	Observations production
01	LAMINATION DN300 PN25 (02 agent, Départ a partir du : (18/02/2015)	15	
<b>TOTAL</b>			

Direction Technico-commerciale

Direction Production



*BOUJELLAL SAID*  
CHEF DE SERVICE  
COMMERCIAL



N° : 06

Date : 17/02/2015

BC N° :

Pour client : MPI oued souf

(Copie Retour)

N°	Désignations	Qté	Observations production
01	LAMINATION DN300 PN25 (02 agent, Départ à partir du : (18/02/2015)	15	
<b>TOTAL</b>			

Direction Technico-commerciale


Direction Production



*BOUJELLAL SAID*  
CHEF DE SERVICE  
COMMERCIAL



**Appendix N° 10:** Production order form

 Tuyaux et raccords en PRV	<b>FORMULAIRE</b>	ER 7.2-01_00
	<b>ORDRE DE FABRICATION</b>	Version : 00
		Date : 01 Mars 2012
		Page 1 / 1

N° : 019

Date : 18/05/2016

BC N° :00838 du 18/05/2015

Pour client : SARL MECHRI.

N°	Désignations	Qté	Observations production
01	TUYAU PRV CFW DN600 PN6 SN10000.	32.3	

Direction Technico-commerciale

Direction Production

SARL MAGHREB PIPE INDUSTRIES  
DIRECTION TECHNO-COMMERCIALE  
SERVICE COMMERCIAL

*BOUDJELLAL SAID*  
CHEF DE SERVICE  
COMMERCIAL

SARL MAGHREB PIPE INDUSTRIES  
DIRECTION PRODUCTION

N° : 019

Date : 18/05/2016

BC N° : 00838 du 18/05/2016

Pour client : SARL MECHRI

N°	Désignations	Qté	Observations production
01	TUYAU PRV CFW DN600 PN6 SN10000.	32.3	

Direction Technico-commerciale

Direction Production

SARL MAGHREB PIPE INDUSTRIES  
DIRECTION TECHNO-COMMERCIALE  
SERVICE COMMERCIAL

*BOUDJELLAL SAID*  
CHEF DE SERVICE  
COMMERCIAL

SARL MAGHREB PIPE INDUSTRIES  
DIRECTION PRODUCTION

## Appendix N° 11: Invoice form

### SARL MAGHREB PIPE INDUSTRIES

Capital: 694.400.000 DA  
FABRICATION DE TUYAUX EN PRV  
ZONE INDUSTRIELLE M'SILA  
**RC:** 04 B 0562753  
**AI:** 28012003468  
**MF:** 000428056275372 **NIS:** 000428011135558  
**Banque:** BEA M'SILA N°0472200234/80  
**Tél.:** 035 55 12 89 **Fax:** 035 55 42 38



info@maghrebpipe.com

### FACTURE

**N° :** 00051  
**Date facture :** 19/05/2016

**BC n° 000838 :** 18/05/2016  
**BL n° 260 :** 19/05/2016

**CLIENT :** (Nom, Prénoms ou raison sociale)

SARL MECHERI  
Bordj Bou Arréidj  
B-B-Arreidj **RC :** 98 B 0462214  
**MF :** 0998340046221428 **AI :** 34017101477

N°	Désignation	U/M	Qté	PU HT	Rem.%	Mt.Remise	TVA %	Montant Net HT
1	TUYAUX PRV CFW DN600 PN6 SN10000	ML	32.3	11 600.00	0.00	00.00	17.00	374 680.00

**MODE :** A terme

Total H.T	374 680.00
Total T.V.A	63 695.60
<b>TOTAL à payer</b>	<b>438 375.60</b>

Arrêté la présente facture à la somme de : QUATRE CENT TRENTE HUIT MILLES TROIS CENT SOIXANTE-QUINZE Dinars Algérien et 60 centimes

**LE SERVICE COMMERCIAL**

SARL MAGHREB PIPE INDUSTRIES  
DIRECTION TECHNO-COMMERCIAL  
SERVICE COMMERCIAL  
BOUDJELLAL SAÏD  
CHÉF DE SERVICE COMMERCIAL

**Siège Social:** Nouvelle cité administrative  
**Usine:** Zone Industrielle M'sila 28000 - ALGERIE -  
Banque Extérieure d'Algérie BEA Agence de M'sila **047**  
**Tel:** +213 (0) 35 55 12 89 **Fax:** +213 (0) 35 55 42 38

Promotion BAALI - M'sila 28000 - ALGERIE -  
**Adresse Postale:** BP 1174 RP M'sila 28000 - ALGERIE -  
**Compt:** 002 00047 0472200234-80  
**E-mail:** info@maghrebpipe.com **web:** www.maghrebpipe.com

## Appendix N° 12: Delivery form

### SARL MAGHREB PIPE INDUSTRIES

FABRICATION DE TUYAUX EN PRV

ZONE INDUSTRIELLE M'SILA

M'SILA

TEL : 035 55 12 89 FAX : 035 55 42 38



### BON DE LIVRAISON

N° : 00260 DU : 19/05/2016

CLIENTSARL MECHERI

Bordj Bou Arréidj

B-B-Arreridj

DESTINATION : M'SILA

Item	REFERENCE	DESIGNATION	Unité	Qté Livrée
1		TUYAUX PRV CFW DN600 PN6 SN10000 1385/1491 1401/1507 1408 L= 8.3m.	ML	32.3

#### Transporteur:

Chauffeur: LABACHI FAYCEL

Permis 2014/1939/02/34

Matricule: 00045-512-34

propriétaire:

Véhicule: CAMION RENAULT

Visa Client

Service commercial



*Boudjellal Said*  
CHEF DE SERVICE  
COMMERCIAL

**Siège Social:** Nouvelle cité administrative

**Usine:** Zone Industrielle M'sila 28000 - ALGERIE -

Banque Extérieure d'Algerie BEA Agence de M'sila **047**

**Tel:** +213 (0) 35 55 12 89 **Fax:** +213 (0) 35 55 42 38

Promotion BAALI - M'sila 28000 - ALGERIE -

**Adresse Postale:** BP 1174 RP M'sila 28000 - ALGERIE -

**Compt:** 002 00047 0472200234-80

**E-mail:** [info@maghrebpipe.com](mailto:info@maghrebpipe.com) **web:** [www.maghrebpipe.com](http://www.maghrebpipe.com)

**Appendix N° 13:** Finished product receipt form

	<b>FORMULAIRE</b>	ER 7.5.1-02_00
	<b>FICHE DE RECEPTION DU PRODUIT FINI</b>	Version : 00
		Date : 1er Mars 2012
		Page 1 / 1

**N: 891**

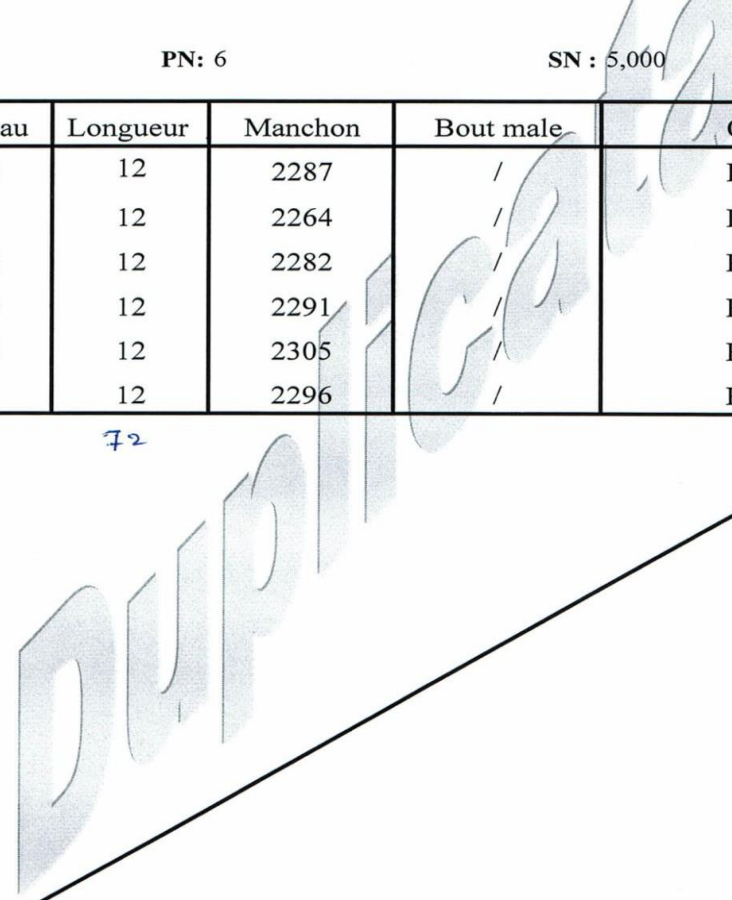
Procédé : CFW

Date : 24-11-16

DN : 600

PN: 6

SN : 5,000

N°	N° Tuyau	Longueur	Manchon	Bout male	OBS
01	1692	12	2287	/	RAS
02	1711	12	2264	/	RAS
03	4816	12	2282	/	RAS
04	1760	12	2291	/	RAS
05	1802	12	2305	/	RAS
06	1661	12	2296	/	RAS
07	 72				
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

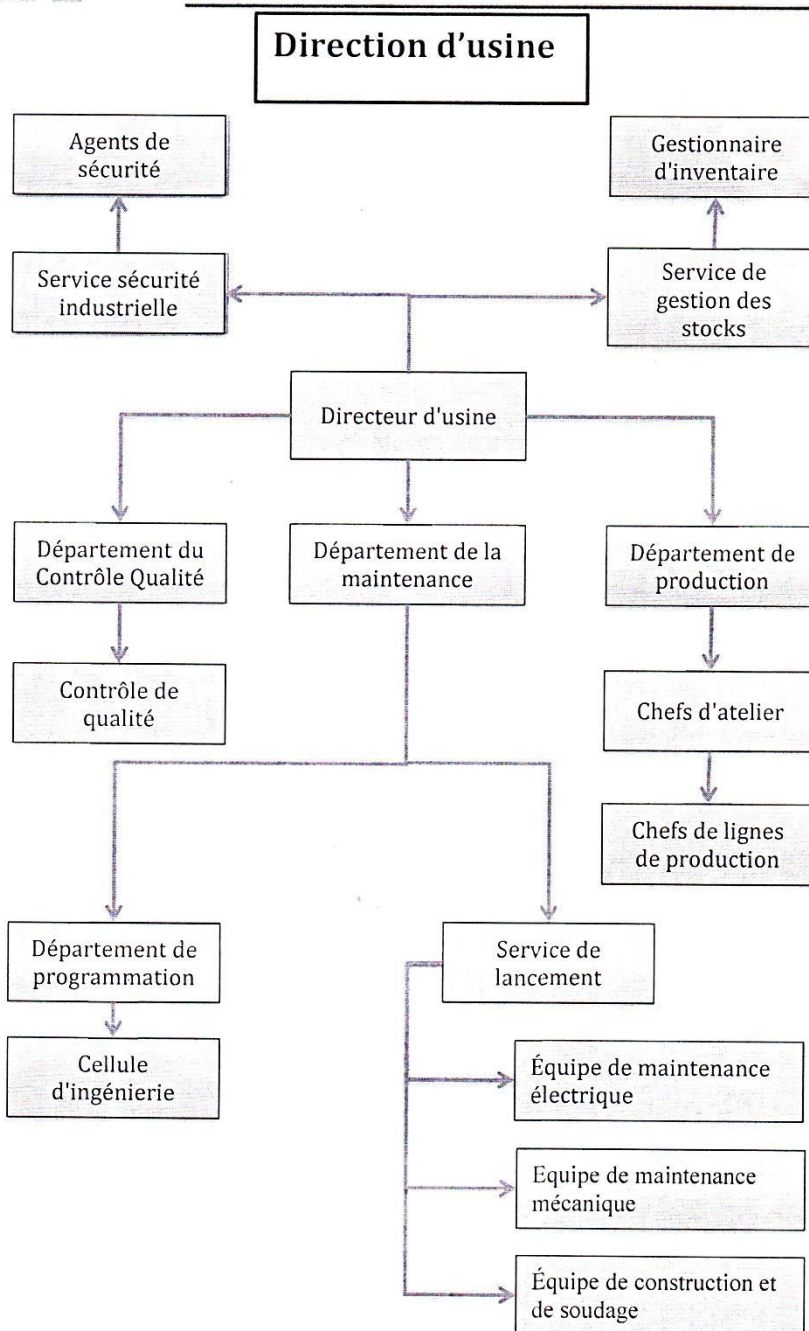
P/Chef de Département Contrôle Qualité

Chef de Service commercial


**CHETTIH.A**  



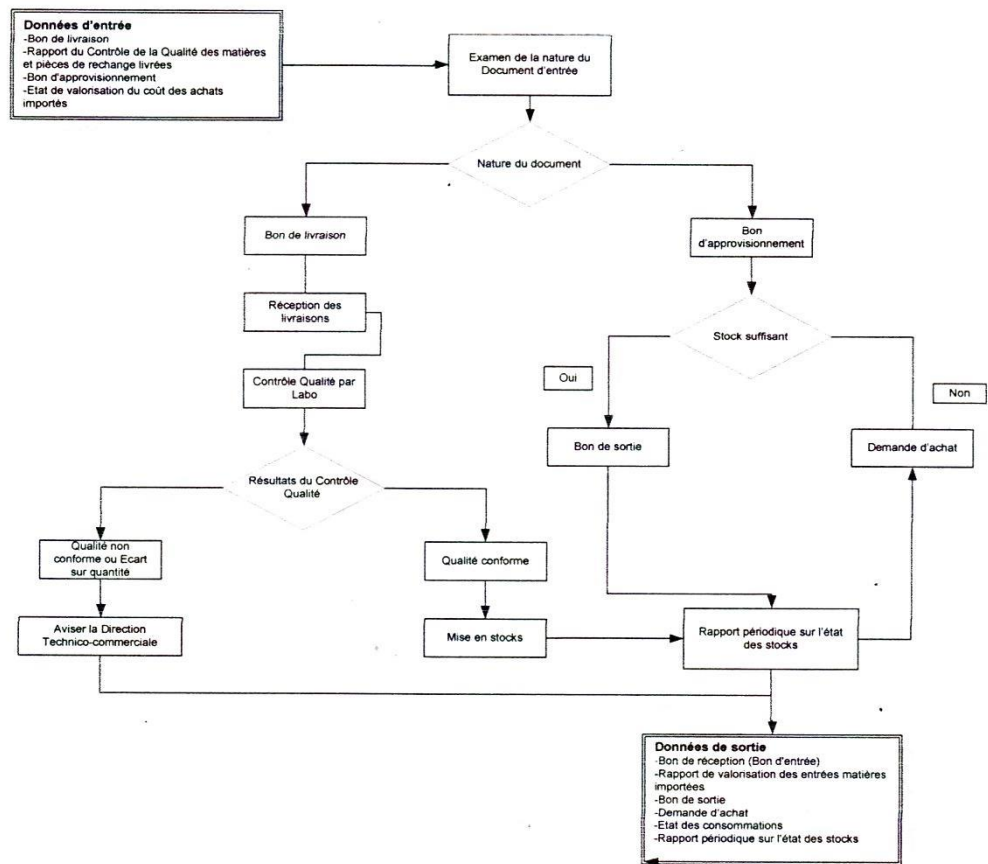

**Appendix N° 14:** Organizational chart of factory direction



## Appendix N° 15: Flowchart of the inventory management process

 Tuylaux et raccords en PRV	<b>GESTION DES STOCKS</b>	Date : 28 Novembre 2012 Page: 4/10
<b>Processus liés :</b> <ul style="list-style-type: none"> <li>- Processus Approvisionnement</li> <li>- Processus Production</li> <li>- Processus Management des Ressources</li> <li>- Processus Maintenance</li> <li>- Processus H.S.E</li> <li>- Processus Contrôle Qualité</li> </ul>		
<b>Interaction :</b> Documentaire		

### LOGIGRAMME DU PROCESSUS GESTION DE STOCKS

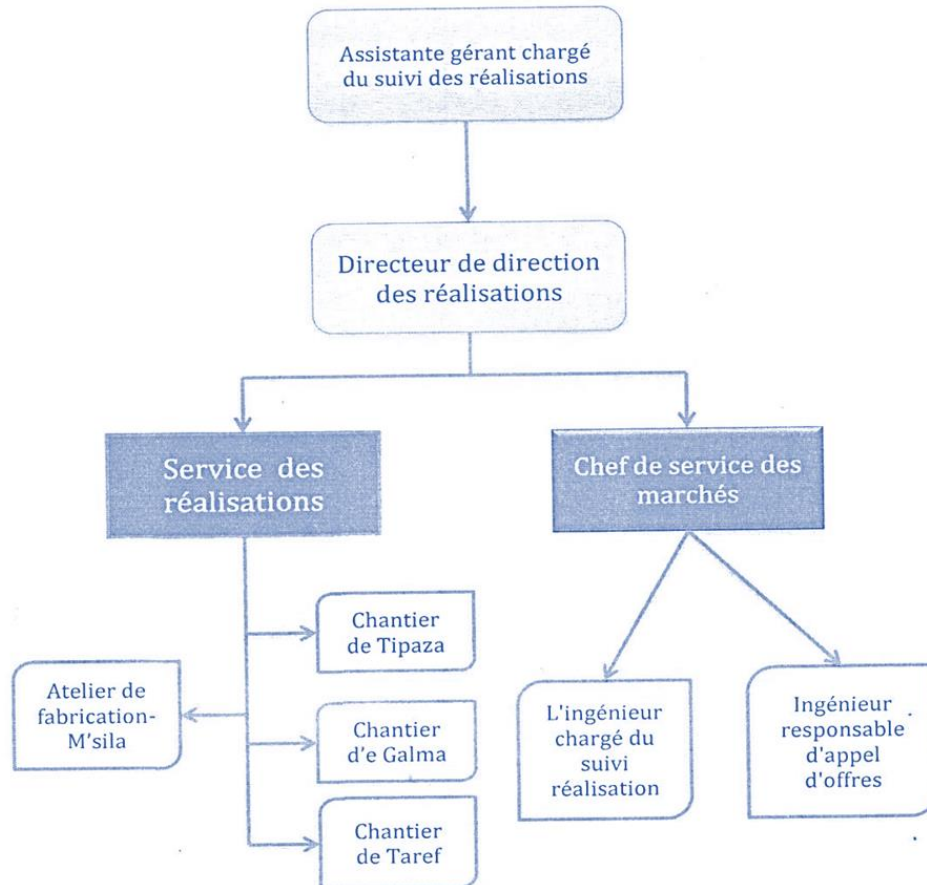


**Appendix N° 16:** Organizational chart of realization direction



**MAGHREB PIPE Industries**

Sar au capital social de 694.400.000 DA



*L'organigramme de responsabilités des réalisations*

## Appendix N° 17: Declaration

الجمهورية الجزائرية الديمقراطية الشعبية  
وزارة التعليم العالي والبحث العلمي  
جامعة محمد بوضياف بالمسيلة  
كلية العلوم الاقتصادية والتجارية وعلوم التسيير  
قسم: علوم المالية والمحاسبة



### تصريح شرفي

بالالتزام بمعايير الأمانة والنزاهة العلمية في إعداد مذكرة الماستر

أنا الممضي أسقله:

الطالب (ة): بعلة آية المولود(ة) بتاريخ: 1998/10/10 بن: المسيلة  
الحامل لبطاقة التعريف الوطنية (أور.س.) رقم: 206736184 الصادرة بتاريخ: 2021 /05/23 عن: دائرة المسيلة  
المسجل بالسنة الثانية ماستر شعبة: علوم المالية والمحاسبة تخصص: تدقيق ومراقبة التسيير  
خلال السنة الجامعية 2021/2020  
والمعد لمذكرة الماستر التي تحمل عنوان:

### The Role of Internal Control System in Risk Management -Case Study of MAGHREB PIPE COMPANY in M'sila-

أصرح شرفي أنني التزمت بمراعاة معايير الأمانة والنزاهة العلمية المطلوبة في إنجاز مذكرة الماستر المذكور أعلاه.

حرر بتاريخ: 2021/06/08

التوقيع و البصمة

\*يجوز كل طالب (ة) تصريحا فرديا في حالة إعداد المذكرة من طرف أكثر من طالب(ة) واحد.

