UNIVERSITE ABDERRAHMANE MIRA DE BEJAIA

FACULTY OFECONOMICS MANAGEMENT AND COMMERCIAL SCIENCES

DEPARTMENT OF ACCOUNTING AND FINANCE

MASTER IN ACCOUNTING CONTROL AND AUDITING

جامعة بجاية
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Université de Béjaïa

Evaluation of Internal control system, management of operational risks, in the purchasing cycle.

Case study on the company of Algerienne de Production de Matériaux de Construction EPE/SPA (Unité Agglo-Béton).

A dissertation to obtain a masters' degree in accounting control and auditing

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UNIVERSITY YEAR 2023-2024

ACKNOWLEDGEMENTS

First of all, we thank God for helping and guiding us to complete this work in the best conditions. At the end of this work, I would like to warmly thank respectively all those who contributed directly or indirectly to the completion of our dissertation.
Our sincere thanks goes toour Supervisor, Mr. Mohand Akli Oughliss, for his patience, valuable suggestions and guidance.

We would like to thank the director enterprise A.P.M.C Unité Agglo Béton, Mr Bensadi Nabil who offered us this internship.

We would like to thank the head of finance and accounting service at the enterprise A.P.M.C Unité Agglo béton Mr. Mecheri Cherif who was our supervisor during our internship period at this company, He guided us throughout the internship with great dedication to learn and get the information we needed to use in our dissertation.

We would like to thank all the staff of the purchasing service mainly and other services of A.P.M.C Unité Agglo béton for their warm welcome.

DEDICATION

I dedicate this study first of all to my lovely mum Mrs. Nakafeero Mariam for her genuine love and my two sisters, Mercy and Nuru who have supported me in every step of my study. Secondly I dedicate this work to my dissertation partner Kyakuwa Prossy.C. Sejjulu who I have worked with day and night to come up with this research. Thirdly I dedicate this work to my three best friends, Nalugo Diana, Kiplimo Judah and Kisuki Ivan for the all the care they have given me from day one of my study.I also dedicate it to my Nigerian friend Aina Oluwadamilola who has always inspired me throughout my study. I then dedicate this work to my Pakistan friend Laiba who I have always talked to when I get stressed during my study and she has been listening to me and cared for me so that I can do my research in my good health. I also dedicate this work to my Algerian friend Celina Meziane who has been there for me in Algerian and who has treated me right and made me feel at home during my study. I also dedicate it the friends who became my brothers Ssembatya Swallah and Diima Dilan. I then dedicate to my friend Byansi Sharon for the care she has given me during my study. Lastly I dedicate this work to the mostive family which has my junior friends, Grace, Julie Cathy and Julie who have always been there for me to make sure I achieve my goals during my study.

DEDICATION

I start by thanking God for his love and provisions in all dimensions of my life. I dedicate this study to my parents Rositiko Sejjulu, Tusabe Dianah, Namutebi Maureen Sejjulu, Ssempiri Henry Mukasa not forgetting my lovely grandmother Kyakuwa Noeline. Secondly I dedicate this work to my dissertation partner Namatovu Halimah who I have worked with day and night to come up with this research. Thirdly I dedicate this work friends, Musiime Noridah, Nabukenya Dianah Masengere for the all the care they have given me from day one. I then dedicate this work to my siblings Muwanguzi Elisha, Neithen, Elizabeth Ndagire, Nathan, Elisha and Jeremiah.

ABSTRACT

Companies are increasingly diversifying their activities, leading to a more complex and dynamic business environment which has made risks increase. Consequently, it is crucial for every business organization to establish a strong operational risk management and internal control systems to ensure continued operational efficiency and reduce potential threats. This study focuses on the evaluation of the internal control system within the purchasing cycle, to know the impact of these internal controls on managing operational risks, identifying operational risks and proposing recommendations to improve the management of these risks in the company A.P.M.C Unité Agglo Béton which is our case study. First, key concepts related to internal control are identified. Next, the methodology for evaluating internal control procedures and the various tools used are presented. Finally, the evaluation of the internal control system.

Our practical training at A.P.M.C Unité Agglo Béton showed that integrating internal control systems and operational risk management reduces risks in the company's purchasing cycle. The company, specializing in construction materials, emphasizes effective internal controls and risk management in its procurement process. Finance, accounting, operations, and logistics/purchase services are highly involved in internal control and procurement. The company's structured procurement procedures ensure transparency and accountability. Through compliance tests, we verified the internal control system, identifying some strengths and weaknesses. A preliminary evaluation highlighted theoretical strengths and weaknesses, tested for consistency in a permanent test. The final evaluation used simulations to identify operational risks, summarized in an evaluation report. Indeed, our practical part enabled us to identify operational risks in the internal control system in purchasing at A.P.M.C Unité Agglo Béton

K**ey words:** Internal control system, operational risks, purchasing cycle, A.P.M.C Unité Agglo Béton.

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A.P.M.C	Algérienne de Production de Matériaux de Construction
COSO	Committee of Sponsoring Organizations of the Tread Way Commission
IFACI	Institut Français de l'Audit et du Contrôle Interne
ISO	International Organization for Standardization
AMF	Autorité des Marchés Financiers
CCA	Consultative Committee of Accountancy
IFAC	International Federation of Accountants
GAAPS	Generally Accepted Accounting Principles
IFACI	Institut Français de l'Audit et du Contrôle Internes
GIL	Groupe des Industries Locales
SPA	Société Par Action
SGP	Société de Gestion des Participations de l'État
EPE	Entreprise Publique Économique
DIPREST	Distribution, Importation et Production de Services Techniques
H.S.E.	Health, safety, and environment
RFQ	Requests for Quote
C.E.O	Chief Executive Officer
SARL	Société à Responsabilité Limitée
I.C.Q	Internal Control Questionnaires
S-PM	signature of purchasing manager
S-UD	Signature of unit director
S-RS	Signature of requesting structure
S-SM	Signature of store manager
S-Su	Signature of Supplier
S-Se	Signature of Secretary
IN	Invoice
PO	Purchase order
GRN	Goods Received Note
NO.	Number
Req structure	Requesting Structure

PM	Purchasing Manager
SM	Store manager
PS	Purchasing structure
IM	Inventory Manager
MC	Management controller
U.D	Unit Director
INC	Internal controller
GD	General Director
ACC	Accountant
CTO	Comparative Table of Offers
DZD	Dinar Gazairi
SPSS	Statistical Package for the Social Sciences
FRAP	Feuilles des Révélation et d'Analyse des Problèmes

CHAPTER ZERO: GENERAL INTRODUCTION

This chapter introduces our study, covering essential components for understanding its scope and significance. It starts with the background of the study, emphasizing the importance of effective internal controls in managing operational risks within organizations, particularly in the purchasing cycle. The orientation of the study focuses on the construction industry and the specific role of the company Algérienne de Production de Matériaux de Construction EPE/SPA (Unité Agglo-Béton), highlighting the necessity of stronginternal controls in this sector. The statement of the problem addresses the challenges organizations face in implementing effective control mechanisms and the need for comprehensive evaluation to improve efficiency and risk management. The research questions guide the study by exploring the literature review, evaluation procedures, existing controls, weaknesses, and potential improvements for the company A.P.M.C Unité Agglo-Béton. The research hypotheses propose testable statements about the sufficiency and effectiveness of current controls and the potential for reducing operational risks. Finally, the outline of the dissertation previews the structure and content of the subsequent chapters, providing a roadmap for the study.

1.Background of the study

Internal control has grown significantly in recent years within all organizations around the world. The aim of every profit-making organization is to earn profit, stay in business for a long time, meet customers' demands and expectations, pay their debts when they fall due and satisfy the aims of stakeholders.The modern business environment is characterized by complexity, dynamism, and increased exposure to various types of risks. Organizations, irrespective of their size and industry, face operational risks that can significantly impact their performance, financial stability, and reputation. An effective and efficient internal control system can form an important competitive advantage for the company, regardless of its size or the sector in which it operates. Several companies have therefore understood that it would not be enough to have an internal control system, but it must be effective and efficient so that it can ensure its role as a factor of success and competitive advantage.

According to the COSO integrated framework 2013, internal control is done 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, and compliance with applicable laws and regulations.

Internal control refers to a set of mechanisms aimed, on one hand, at ensuring the protection and safeguarding of assets and the quality of information, on the other to ensure the application of management's instructions and to promote the improvement of performance(Frédéric Bernard R. G., 2008). Basel Committee on Banking Supervision 2001 defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people, systems, or external events. Unlike financial risks, which are often predictable and quantifiable, operational risks can be from a variety of sources, making

them more challenging to manage.The purchasing cycle, a fundamental component of the supply chain, involves the procurement of goods and services essential for operations. Inefficiencies or failures within this cycle can lead to significant operational risks, including financial losses, compliance issues, and reputational damage. This study aims to evaluate the internal control system within the purchasing cycle and their impact on managing operational risks.In the purchasing cycle, internal controls prevent fraud and errors, ensure transaction accuracy, promote efficiency, and ensure compliance. Key controls include segregation of duties, authorization processes, reconciliations, and audits.

2.Orientation of the study

The construction industry is a cornerstone of economic development, and its efficiency and effectiveness are pivotal for national growth. Within this sector, the role of companies specializing in the production and supply of construction materials is crucial. Among these is the company Algérienne de Production de Matériaux de Construction EPE/SPA (Unité Agglo-Béton).

The company of A.P.M.C Unité Agglo Béton is a company that specializes in manufacturing and supplying various construction materials used in the construction industry, such as cement, concrete, bricks, tiles, aggregates, etc. The company plays an important role in supporting construction infrastructure and development in Algeria, providing quality products for residential, commercial and industrial construction projects.

However, the complexity and scale of operations in such a company requires strong internal controls, particularly within the purchasing cycle. Effective internal control mechanisms are important for safeguarding assets, ensuring the accuracy and reliability of financial records, and promoting operational efficiency. In the context of A.P.M.C, the purchasing cycle involves multiple steps and numerous individuals, from expression of the need to payment. Each phase presents potential risks that can impact the company's operations and, ultimately, its profitability and reputation.

This dissertation aims to evaluate the internal control systems within the purchasing cycle of A.P.M.C Unité Agglo Béton. By conducting a comprehensive analysis, this study seeks to identify potential weaknesses and propose recommendations to improve operational risk management. The focus will be on understanding how the evaluation of the existing internal control system helps us to identify operational risks within the company.

3.Research objectives

Our research consists of evaluating the internal control system within the purchasing cycle at Algérienne de Production de Matériaux de Construction EPE/SPA (Unité Agglo Béton) and to understand their impact on managing operational risks. The objectives of our research include:

- To evaluate the existing internal control system in place within the purchasing cycle at Unité Agglo-Béton.
- To identify the procedures used for evaluating the internal control system
- To identify operational risks in the internal control system

- To propose recommendations to improve management of operational risks.
- To provide a comprehensive evaluation report.

4.Statement of the Problem

Despite the recognized importance of the internal controls, many organizations continue to face challenges in designing, implementing, and maintaining effective control mechanisms within their purchasing processes. Issues such as inadequate segregation of duties, insufficient oversight, lack of real-time monitoring, and outdated or ineffective control procedures contribute to vulnerabilities in the purchasing cycle. Consequently, there is a pressing need for a comprehensive evaluation of internal controls to identify operational risks and improve efficiency.

The main research question in our dissertation that constituted our starting point is**:Can the evaluation of the internal control system in the purchasing cycle help us to identify operational risksand improve the management of these risks?**

5.Research Questions

From our main research question, we will look at the following research questions

a. How the internal control system and operational risk management process help in the reduction of risks ina company's purchasing cycle?

b. What is the procedure used to evaluate the internal control system in the purchasing cycle to identify operational risks in the company A.P.M.C Unité Agglo béton?

c. What recommendations can we propose to improve the management of these operational risks?

6.Research hypotheses

To answer these questions, we proposed the following hypotheses:

a. Hypothesis 1: The presence of effective internal control system and operational risk management processes in the purchasing cycle contribute to the reduction of operational risks.

b. Hypothesis 2: The evaluation of the internal control system within the purchasing cycle is process which can identify operational risks, and provide a basis to improve operational risk management at the company A.P.M.C Unité Agglo Béton.

7.Outline of the dissertation

Our dissertation is made up of three chapters and below is a brief outline of these three chapters;

a. Chapter zero: general introduction

This chapter introduces the study, outlining its purpose, scope, and significance. It states the research problem, research questions and hypotheses, and provides an overview of the dissertation structure.

b. Chapter one: literature review

This chapter reviews the concept of internal control, its objectives, components, and legal framework. It discusses the implementation and evaluation of internal controls, the purchasing process, and internal controls within the purchasing procedure. It also covers operational risk management, including risk types, risk mapping, and the risk management process, as well as the relationship between internal control and risk management.

c. Chapter two: presentation of the company and methodology

This chapter presents a case study of the company of A.P.M.C and mainly its unit called Unite Agglo béton detailing its history, products, organizational structure, and departments. It outlines the research methodology, including the conceptual framework, research design, population, sample size, data collection, measurement of variables, and study limitations.

d. Chapter three: empirical findings and analysis

The final chapter presents findings from the evaluation of the internal control system in the purchasing cycle at A.P.M.C Unite Agglo-Béton. It includes the evaluation steps of awareness, description, compliance test, preliminary evaluation and final evaluation of the purchasing process, and concludes with recommendations and an evaluation report.

CHAPTER ONE: LITERATURE REVIEW

The literature review chapter of our dissertation presents a review of the theory that supports the study of internal control, management of operational risks in the purchasing cycle. It begins with an exploration of the generalities of internal control, including its definition, evolution, and fundamental objectives, followed by an examination of its guiding principles and essential components. The chapter then transitions to the practical aspects of internal control, focusing on the implementation and evaluation processes, showing both the benefits and limitations of the internal control system. Further, it explores the purchasing cycle, including its definition, objectives, and procedures and internal controls used in the purchasing transactions. The latter part of the review shifts to the management of operational risks, outlining their definition, types, sources, and impacts on organizations. It examines risk mapping, the comprehensive process of identifying, analysing, evaluating, and treating risks, and emphasises the relationship between internal control and operational risk management. We are starting our literature review with internal control within the company.

1.1.Internal control within a company.

This section explores the critical role of internal control system in companies which includes policies, procedures, and practices implemented by an organization. Company managers always demand the existence of an effective internal control system management, because it constitutes the basis of sound and prudent management of the activity. The section also covers the definition, evolution, objectives, principles, and components of internal control. It also includes the implementation, evaluation of the system of internal its advantages and limits. Additionally, it examines the purchase cycle, detailing its definition, objectives, procedures, and the internal controls that manage procurement risks

1.1.1.Generalities of the concept of internal control

The term Internal Control as an Anglo- Saxon expression has a verb “to control” which means to maintain control of the situation and as a French expression the word to “control” is better understood as exercising a monitoring action on something to evaluate it.The term internal control has several definitions basing on different authors and various professional accounting organisations as detailed below.

a.Definition and evolution of internal control

Definitions of internal control are numerous and have most often been authored by professional accounting organizations.

(Frédéric Bernard R. G., 2008) defined the term internal control in the **classic sense,** as a set of mechanisms aimed, on the one hand, at ensuring the protection and safeguarding of assets and the quality of information, on the other to ensure the application of management's instructions and to promote the improvement of performance. The term internal control translates in practice into two complementary aspects:

- A state of mind for which the responsibility lies with every person exercising some authority in the organization: planning tasks, organizing responsibilities, leading operations and monitoring their smooth running;
- A set of means, measures and methods to achieve this.

According to(Frédéric Bernard R. G., 2008),the **COSO** (Committee of Sponsoring Organizations of the Tread way Commission) framework defined internal control as a process put in place by the managers and staff of an organization with the aim of providing reasonable assurance regarding the achievement of the following objectives:

- Carrying out and optimizing operations;
- The reliability of financial information;
- Compliance with applicable laws and regulation.

This definition is widely recognized and applied throughout the world, particularly in the financial and accounting field. The framework consists of five components of effective internal control: control environment, risk assessment, control activities, information and communication, and monitoring. The COSO framework is designed to be used by organizations to assess the effectiveness of the system of internal control to achieve objectives as determined by management. The COSO framework is also used to evaluate and improve internal control systems in various business areas.

According to (Jacques Renard, 2012),the framework of the Autorité des Marchés Financiers**(AMF)** gives a very comprehensive definition of internal control by saying that internal control is a company system, defined and implemented under its responsibility. It includes a set of means, behaviours, procedures and actions that are adapted to the specific characteristics of each company which:

- Contributes to the control of its activities, the effectiveness of its operations and the efficient use of its resources;
- Must enable it to take appropriate account of significant risks, whether operational, financial or compliance.

The **Council of the Order of the French Chartered Accountants of** 1977definedInternal control as all the safeguards contributing to the control of the company. Its aim is, on the one hand, to ensure the protection and safeguarding of heritage and the quality of information, and on the other hand, the application of management's instructions and to promote the improvement of performance. It manifests itself through the organization, methods and procedures of each of the company's activities, to maintain its sustainability (Afef Khalil, 2022).

Consultative Committee of Accountancy **(CCA)** of Great Britain in 1978 defined internal control as all the control systems, financial and others, put in place by management in order to be able to direct the affairs of the company in a manner orderly and efficient, ensure compliance with management policies safeguard assets and guarantee as much as possible the accuracy and completeness of the information recorded (Jacques Renard, 2012).

According to(Afef Khalil, 2022), International Federation of Accountants (IFAC) 2008 also defined internal control and this definition introduces some basic concepts such as:

- Internal control is a process; internal control procedures are most effective when they are integrated into the infrastructure and part of the corporate culture. They must be combined and not added. It is a means to an end, not an end in itself,
- Internal control is defined and implemented by people: it is not just a set of manuals, procedures and documents. Internal control is carried out by people at all levels of the hierarchy,
- Management and the board of directors can only expect from internal control reasonable assurance regarding the achievement of the entity's objectives and not absolute assurance due to the risks inherent in any internal control system (e.g.: disaster natural, economic crisis, introduction of new regulations, fraud, etc.).

In our perspective, internal control is a set of processes, policies, practices and mechanisms put in place by an organization to ensure that its objectives are achieved effectively and efficiently, that its operations comply with applicable laws and regulations, and that its resources are used appropriately. It aims to provide reasonable assurance regarding the achievement of the organization's objectives relating to the reliability of financial reporting, compliance with laws and regulations, and the effectiveness and efficiency of operations. Internal control includes activities such as supervision and monitoring, written policies and procedures, segregations of duties, internal checks and audits, and staff training. The concept of internal control has evolved over the years and below is a brief history of this evolution.

Evolution of internal control

By ignoring the long years during which the concept was not formulated, although roughly implemented, In the 1960s, the Order French Accountants and the company of Commissioners accounts imported the concept of internal control by demonstrating that risk management is essential in accounting made it possible to provide assurance as to the regularity and sincerity of the accounts.

In 1977, the Order of Chartered Accountants gave internal control a definition and the pioneers had an exact vision of the concept and its scope. It was around 1980 and 1985, with the appearance of a certain number of scandals, that the improvement of internal control was truly beginning under the leadership of American Senator Treadway who stressed the need to give business leaders a tool, a repository of concepts, allowing them to better control their activities.

The Tread way commission thus was created in United States which constituted a committee universally known under the name of COSO. The latter initiated a reflection in two stages; COS01 in the 1980s and COS02 in 2004. COS01 (Committee of Sponsoring Organizations of the tread way commission) brought together the skills of a certain number of professionals representing a few external audit firms and large American companies.

From COS01 the various elements identified were refined and completed by looking more particularly into the soft underbelly of the pyramid, that is to say risk assessment? It was then replaced by the new notion, that of Enterprise Risk Management (ERM), or global risk management. The in-depth work of COSO1 has in fact shown that it is this process, taken in its entirety, which can effectively enable the implementation of good internal control which cannot exist without overall risk management (Jacques Renard, 2012).
The evolution of internal control is fuelled by factors such as technology, risk, collaboration, agility, compliance, outsourcing and organizational culture. Companies must continually adapt their control approaches to respond to these trends and ensure asset protection, regulatory compliance and the achievement of their business objectives.

b. Objectives of internal control

Internal control objectives are key objectives established by an organization to ensure the effectiveness, efficiency and compliance of its operations. These objectives are intended to protect company assets, ensure the integrity of financial data, promote compliance with applicable laws and regulations, and promote the achievement of the organization's objectives and missions. (Kagermann, 2008)findings state that COSO defined internal control as a process that is affected by the company's board of directors, management and other personnel and designed to provide reasonable assurance regarding the achievement of objectives in the following three categories:

- Efficiency and effectiveness of operations; Performance and profitability goals as well as safeguarding of resources are the major objectives to be attained in order to have effective and efficient operations a company;
- Internal financial control; It relates to the preparation of reliable published financial statements, including financial statements and selected financial data derived from such statements;
- Compliance with applicable laws and regulations; An organization is required to comply with laws and regulations governing its existence. The organization must be aware of all laws and regulations to which it is subject such as the Generally Accepted Accounting Principle (GAAP).

According to (Afef Khalil, 2022), internal control aims to ensure the following seven objectives numbered from i-vii:

i. Protection and safeguarding of assets; Internal control aims to protect and develop a company's assets by minimizing negligence, error, and fraud. This generally involves preventive actions to ensure any issues are discovered promptly and mitigated effectively. The assets include both tangible items like equipment and stocks, and intangible elements such as reputation and employee skills.Examples of procedures for safeguarding assets can include:
    - Ensuring safety standards are systematically followed during construction and equipment acquisition.
    - Implementing authorization, justification, and cancellation procedures to prevent unjustified expenses.

ii. Reliability and quality of information; internal control aims to ensure the reliability of information, which is crucial for effective decision-making. Quality information should be intelligible, communicable, reliable, meaningful, and relevant. To achieve this, internal control systems focus on:

- Separating tasks to clearly distinguish between recording, operation, and storage functions;
- Describing functions to identify the origin and recipients of produced information;
- Implementing an internal accounting control system to ensure transactions comply with instructions and are recorded according to generally accepted accounting principles.

iii. Compliance with management rules; internal control aims to ensure compliance with management rules set by general management. This involves implementing teaching methods and establishing permanent security measures to ensure effective execution of management decisions. Constant compliance with management rules requires systematic execution reporting procedures, permanent supervision and the establishment of a posteriori control.

iv. Performance improvement; internal control, as outlined by the French Order of Chartered Accountants, aims to ensure the efficiency and sustainability of an entity. The benefits of internal control, such as security and efficient management, often outweigh the costs. Conversely, inadequate internal control can lead to significant performance issues or even business failure. Examples of performance improvements due to effective internal control include:

- Sales control, which prevents insolvent receivables, accelerates receivables collection, and reduces financial charges.
- Inventory control, which prevents overstocking, shortages, leakage, waste, and write-downs, thereby minimizing provisions and losses.

v. Development of rigor; internal control aims to foster a sense of rigor within a company by regulating and organizing all activities. This creates a favourable environment for rational management and supports managers with secure organizational systems. Consequently, managers can delegate responsibilities confidently and focus on essential tasks such as strategy development and planning. Examples of procedures that develop rigor include:

- Preventing sloppiness through consistent application of internal control.
- Ensuring system and procedure predominance over individual interests.
- Implementing personnel selection processes to hire competent, serious, and morally sound staff.

vi. Compliance with various regulations; internal control aims to ensure a company's compliance with various legal regulations, which is essential for its security and

sustainability. Given the diverse areas of regulation (e.g., accounting, tax, commercial, environmental law), internal control aims to understand applicable rules, stay informed of any changes in these rules, translate regulations into internal procedures and train with informing employees about relevant rules.

vii. Identification of new risks; internal control aims to identify and evaluate risks associated with each activity within a company, in line with the risk taking policy set by general management. Effective internal control processes help to identify new risks that could impact the company's efficiency, detect early warning signs for necessary changes and provide tools to implement these changes.

Having established the importance of these objectives, it is essential to understand the components that constitute an effective internal control system in next part. These components form the structural foundation upon which the objectives are realized, providing the mechanisms through which organizations can achieve operational excellence and regulatory compliance.

c.The components of internal control

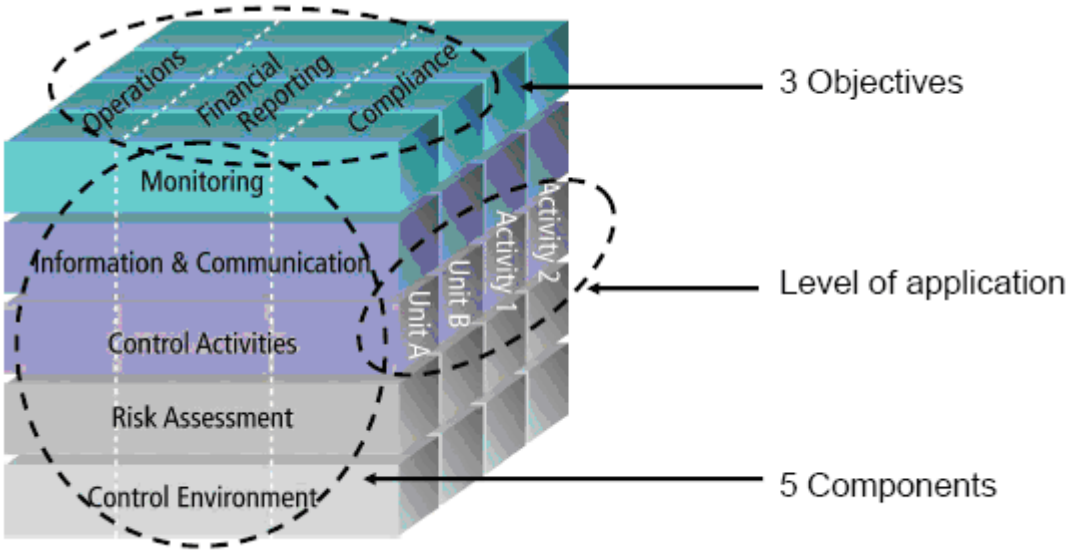
The internal control system includes five components linked to each other and which must be applied to all enterprises. Their implementation differs from one organization to the other, namely the size and sector of activity of the enterprise. COSO classifies the systems that an organization must define in order to best control its activities into 5 components including the control environment, risk assessment, control activities, Information and communication and finally monitoring.

The COSO framework in figure 1 and 2 shows three objectives:

- Operations, which have to do with how effective and efficient an entity uses its resources,
- Financial reporting which deals with the preparation of reliable financial statements.
- Compliance which relates to an organization’s compliance with applicable laws and regulations.

Internal control offers five components schematized in the form of a cube as shown in the diagrams below

Figure 1: COSO cube showing the five components of internal control



Source: Adapted from 2004 COSO.

In order to achieve these three objectives, the internal control system must display the major components as explained below from i-v

i. **The control environment;**

According to (Jacques Renard, 2012), COSO states that the control environment is a very important element of a company's culture and determines the level of staff awareness of the need for control. This environment constitutes the foundation of all other elements of internal control since it results in the discipline and organization of the company.The control environment is the basis and it is the environment in which internal control will develop and be organized. Its quality will condition the quality of internal control and this is why the control environment constitutes the base of the pyramid: it is the foundation on which everything will be built. It determines the level of staff awareness of the need for control. Without a favourable control environment, it is useless to hope for a significant result and therefore satisfactory control of activities. It is therefore an essential element which constitutes the foundation of all other elements of control; it symbolizes culture. The company is a mosaic of cultures making up the global culture.

This dimension of the control environment includes five principles: integrity and ethics; independence and expertise of the board of directors; structures, powers and responsibilities, training and retention of employees and accountability.

- Integrity and ethics; if morality has a universal dimension, ethics has a personal dimension. The implementation of the values of integrity and ethics involves the adoption of codes of conduct promoting adherence to the values of the organization, conflicts of interest, or the standards of ethical behaviour of individuals, whether either for the company's employees or for all other stakeholders. These factors are favourable to the quality of the control environment.

- The independence and expertise of the board of directors: those responsible for supervision must be competent and demonstrate objectivity.

- The establishment of structures, powers and responsibilities; if the first two principles of the control environment have put the emphasis back on the human and ethical dimensions, the role of internal control is mainly to put in place the structures which avoid placing people in situations of temptation. A good work structure contributes to better functioning of the company.

- Commitment to competence; training and employee loyalty. The requirement for responsibility presupposes the ability to fulfil one's functions, that is to say the adequacy of knowledge and professional experience with the responsibilities assumed. A good control environment requires competence and integrity in the management of human resources.

- Accountability; the control environment therefore facilitates the exercise of internal control when responsibilities and powers correspond to the strategic and clear distribution of activities and processes within the company.

ii. **Risk assessment;**

Risk assessment is an ongoing and repetitive process focusing on identifying and managing internal and external risks. A key aspect of effective risk management is categorizing risks into unacceptable and acceptable/residual categories (Jacques Renard, 2012). Internal control plays a crucial role in this process by ensuring that appropriate safety measures are in place to manage risks and maintain them at acceptable levels. Internal control within risk assessment includes the following principles.

- Specification of objectives: Clearly defining the company's objectives while considering its history, resources, and industry specifics to guide the risk management process.
- Risk identification and analysis: Identifying and analysing risks at both the organizational and activity-specific levels, prioritizing them based on their potential impact on business performance.
- Risk assessment: Proactively detecting and analysing factors that could hinder the achievement of objectives, ensuring timely and effective risk management strategies.
- Identification and evaluation of change: Establishing a process to identify and evaluate changes in the environment, regulatory context, and operating conditions, and adapting processes or activities to leverage change opportunities.

ii. **Control activities**;

Control activities are rules and procedures that ensure that the measures identified as necessary to control risks are applied correctly and on time. Control activities are the use of accounting systems, information technology, and other resources to ensure that appropriate controls are put in place and operating properly. These rules and procedures

will vary depending on the entity and its culture, depending on the nature of the activities and the work habits of managers. The findings of (Afef Khalil, 2022), state that control activities respond to three principles**:**

- Selection and evolution of controls; controls over computer technology and rules and procedures:
- The selection and development of control activities; each company pursuing its own objectives and implementing its own strategy, internal control activities will necessarily be distinct according to each company. The organization deploys control activities through rules that specify the objectives and procedures that make it possible to implement these rules.
- IT controls; the organization selects and develops IT general controls to facilitate the achievement of objectives. Information system controls may be general or specific to an IT application. Consistency between the different control mechanisms and taking into account possible interactions constitute major challenges for the performance and security of information systems.
- Deployment through rules and procedures; the rules establish what must be done, while the procedures detail the actions that employees must perform to respect the principles. Rules and procedures must ensure that management's risk control directives are effectively implemented.

iv. Information and communication;

According to (Jacques Renard, 2012) , effective internal control systems must ensure timely communication of control information to management, tailoring the amount of detail to the recipient's needs. Major breaches should be promptly reported to senior management, while minor issues can be addressed at lower organizational levels. Both internal and external communications are crucial: internal communication ensures that non-compliant behaviour affecting the organization is promptly reported, while external communication involves monitoring and archiving information for decision-making and involves stakeholders such as regulators, auditors, and media. The primary goal is to enable staff to collect and exchange necessary operational, financial, and compliance data, supporting effective management and control. Communication must be efficient, clear, and convey essential information, ensuring it is relevant, accurate, precise, timely, and appropriately directed. Information circulation should be multidirectional, and the information system must be governed rigorously. This component has the following principles according to (Afef Khalil, 2022):

- The organization obtains, produces and uses relevant and quality information to facilitate the operation of internal control.
- The organization communicates internally the information necessary for the proper functioning of internal control, in particular information relating to the objectives and responsibilities of internal control.
- The organization communicates to third parties the elements that may affect the functioning of internal control.

v. Monitoring (Supervision);

This is the set of processes used by management to examine and assess whether its internal controls are functioning properly. Ideally, management should be able to spot control failures and make adjustments to improve the control environment. Otherwise, an improper or ineffective control may allow misstatements to pass through into the financial statements. Company managers sometimes carry out internal control without knowing it. In Indeed, each manager wherever he is, organizes himself to manage his activity, he will define the tasks of each person, develop working methods, adopt a system information, supervise the activities of its staff, etc. Monitoring operations make it possible to ensure efficiency and good operation. This process involves critical evaluation by staff appropriate, the way the controls are designed, the timelines for execution and the manner in which of which the necessary measures are taken (Jacques Renard, 2012).
After having understood these 5 components of internal control literature, in our research we are going to mainly focus on control activities and risk assessment in a company in order to evaluate the effectiveness of internal control and management of operational risks.

d. Internal control framework

Numerous scandals and events in the business world have highlighted the weaknesses in corporate self-regulation within an ultraliberal environment focused on shareholder value. This has increased the importance of internal control and risk management, making many countries to adapt their legislation to establish control systems for early risk detection and to prevent fraudulent management behaviour. Given the widespread impact on all economic players, it became quite important to develop a standardized framework for concepts and a modern approach to risk management and internal control, which remains relevant today.

i. COSO reference

Internationally, many models ensure the implementation of internal control with the most widely used being those from the Committee of Sponsoring Organizations of the Tredway Commission (COSO). The COSO framework, first was introduced in 1992 and updated in 2013, and the COSO-ERM framework, focusing on risk management, published in 2004 and updated in 2017, are key tools for designing and evaluating effective risk management.
Nationally, the Financial Markets Authority (AMF) released an internal audit framework in 2007, updated in 2013 to improve coherence in audit committee work, internal control, and risk management.
The "three lines of defence" model, promoted by the Institute of Internal Auditors (IIA) and translated in 2013 by the French Institute of Internal Audit and Control (IFACI) and the Association for Corporate Risk and Insurance Management (AMRAE), effectively classifies risk management stakeholders and clarifies their roles.

Original COSO reference from 1992

The COSO model, established by the Treadway Commission in response to financial scandals, defines internal control as a process involving the board of directors, managers, and staff. It aims to provide reasonable assurance in achieving three objectives: efficient

operations, reliable financial and management information, and compliance with laws and regulations.

In this version, internal control offers five components schematized in the form of a pyramid, then a cube in 2013.

- Control Environment: Standards, processes, and structures forming the basis of internal control.
- Risk Analysis: Dynamic and iterative risk assessment process.
- Control Activities: Rules and procedures to ensure management instructions control risks.
- Information and Communication: Production and use of relevant information and continuous communication.
- Monitoring: Continuous or one-off evaluations to ensure all components are functioning.

COSO-ERM reference framework of 2004

In 2004, the Tread Way Commission expanded its focus and developed the COSO-ERM (Committee of Sponsoring Organizations of the Treadway Commission, Enterprise Risk Management) framework. This framework quickly became an international standard for effective risk management. It also provides a comprehensive risk management system applicable to all levels of a company, including its subsidiaries, and extends the internal control system with three additional components which are:

- setting objectives (to identify events detrimental to their achievement);
- identification of events (risks and opportunities);
- Risk treatment.

The COSO framework is thus an approach which defines the fundamentals of internal audit, but which also makes it possible to better reflect the evolution of the regulatory and economic environment in which organizations operate and the new risks they face.

COSO framework updated in 2013

On May 14, 2013, a major update to the COSO framework was published. While based on the original principles, this update addresses changes in environments and heightened expectations for internal control. The 2013 COSO framework introduced three categories of objectives, allowing organizations to address various aspects of internal control and they are as follows:

- Operations objectives: Focus on the effectiveness and efficiency of operations, including operational and financial performance, and asset safeguarding,
- Reporting objectives: Concern internal and external reporting, both financial and non-financial, targeting reliability, timeliness, transparency, and regulatory or internal compliance,
- Compliance objectives: Ensure adherence to applicable laws and regulations.

The update also breaks down the five components of internal control into seventeen underlying principles. These principles address new risk levels that companies face, particularly considering technological developments, fraud control risks, and the quality of relationships.

ii. AMF reference

In 2007, the AMF (Financial Markets Authority) published a reference framework for risk management systems and internal control, which was updated in 2010. This framework, based on the COSO and Turnbull Guidance standards, outlines general principles of internal control and risk management. It also provides an application guide for internal control, risk management, and accounting and financial training.

The AMF defines internal control as a company specific system, created and implemented under its responsibility, comprising means, behaviours, procedures, and actions tailored to each company's characteristics. This system:

- Contributes to controlling activities, ensuring operational efficiency, and resource utilization.
- Enables appropriate management of significant operational, financial, and compliance risks.

The system aims to ensure:

- Compliance with laws and regulations.
- Adherence to instructions and guidelines from general management or the board of directors.
- Proper functioning of internal processes, particularly those safeguarding assets.
- Reliability of financial information.

An effective internal control system must be well designed, systematically applied, and maintained permanently. Proper design involves implementing control procedures suited to the company's activities to achieve internal control objectives.

Furthermore, internal control is based on rules of conduct or principles whose compliance gives it satisfactory quality. These are eleven fundamental principles and they are as follows:

- Principle of benefits exceeding cost,
- Principle of organization,
- Principle of integration,
- Principle of self-control,
- Principle of permanence,
- Principle of universality,
- Principle of independence,
- Principle of legality,
- Information principle,
- Principle of communication,
- Principle of harmony.

The COSO and AMF frameworks emphasises the necessity of strong internal control systems to manage risks and ensure compliance, operational efficiency, and reliable

reporting. COSO has evolved since 1992 to address changing risks, integrating comprehensive risk management in its 2013 update. The AMF framework aligns with these international standards while tailoring its principles to company-specific needs. The focus now shifts to the implementation of internal control processes, ensuring that these principles are effectively translated into daily operations and decision-making practices within the enterprises.

1.1.2. Implementation process and evaluation of the internal control system

This subsection involves the comprehensive process of implementing internal control mechanisms, evaluating their effectiveness, and understanding their advantages and limitations. By examining the step by step implementation process, we can appreciate how these controls are integrated into a company's framework to reduce risks and improve operational efficiency. Furthermore, a thorough evaluation of the internal control system highlights its performance in achieving the set objectives and complying with regulatory requirements. In our next part we are starting by looking at the implementation of internal control process.

a. Implementation of the internal control process

The implementation of an internal control system is an essential process to ensure the reliability of an organization's operations, as well as compliance with regulations. It is essential to ensure risk management and the efficiency of processes within a company. The internal control process has ten steps (Afef Khalil, 2022). They enable to earn all the benefits of effective internal control adapted to the company thus maximizing employee and management satisfaction. The following are the steps to numbered from i-viii implementing effective internal control in an enterprise:

i. Identify the activities carried out and the associated risks. First of all, the scope of action of internal control must be defined. This is certainly the most important step, the one which will give internal control its backbone. Three plans offer a clear and complete start-up framework:

- The geographical framework which makes it possible to formalize the places which will be included in internal control.
- The activities or processes involved.
- Categories of risks (called "objectives" in the COSO) that internal control will enable to better control.

Three essential questions must therefore be asked to define this scope of action:

- Which sites and subsidiaries are affected?
- What activities (processes) are involved?
- What are the categories of risks that internal control will help to reduce?

ii. Identification of activities; once the scope of action has been defined, it is necessary to list the activities (or processes) carried out by the company in order to identify, secondly, the risks linked to each process. The idea is to simply answer the question

"What do we do in the company?" ". Activities vary from one company to another and it is essential to highlight the activities specific to each establishment. In other words, the level of detail in identifying activities must be appropriate and uniform across sectors.

iii. Identification of risks; the risks to which the company is exposed arise mainly from the activities carried out. In this step, we must therefore ask ourselves the question, for each activity: "What are the risks linked to the risk categories selected?" ". Although many risks are possible, you have to be careful to stay close to reality. One of the solutions is to start from situations already experienced by the company or in its sector of activity.
It is up to each company to set up an internal control system adapted to its situation. As part of a group, the parent company ensures the existence of internal control systems within its subsidiaries. These systems must be adapted to their own characteristics and to the relationships between the parent company and the subsidiaries.

iv. Identification of existing controls; identify the controls already in place and formalize them. In the context of internal control, the word "control" covers all the means to control a risk: control action, procedure, regulation, control software, tangible protection measure, etc. Through past experience and knowledge of its sector of activity, each company already has internal controls and effective procedures to control certain risks. It is important to identify them. Often, 90% of controls already exist but are not formalized. Faced with eachrisk, it is therefore sufficient to identify the means of control. In addition, we will add here the "controls of controls" (or monitoring of controls) if they already exist.

v. Risk assessment; assess risks and implement appropriate controls to control them. Not all risks are equal and not all businesses are equally exposed to risk. It is then a question of assessing the risks, in connection with the reality of the company to define whether the means of control are sufficient and whether it is necessary to add controls. Even if this step is not obligatory and may seem time consuming, establishing criticality allows risks to be sorted according to their significance. This criticality takes into account the probability of a risk occurring and the impact if it occurs.

Figure 2: Risk map (cartography of risks)

This risk map shows the probability of a risk occurring and the impact if it occurs.

Likelihood		Consequence				
		Negligible 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
	5 Almost certain	Moderate 5	High 10	Extreme 15	Extreme 20	Extreme 25
	4 Likely	Moderate 4	High 8	High 12	Extreme 16	Extreme 20
	3 Possible	Low 3	Moderate 6	High 9	High 12	Extreme 15
	2 Unlikely	Low 2	Moderate 4	Moderate 6	High 8	High 10
	1 Rare	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

Source: Adapted from the research gate of a standard risk matrix diagram.

vi. Risk treatment; there are four possible risk treatment strategies when implementing internal control: avoiding the risk, reducing it, transferring it or sharing it and accepting it. Let's take the example of collecting bills in cash. When collecting invoices, human or software errors are always possible, even highly probable. There are therefore risks associated with this activity. Here are four possible strategies to adopt to address these risks:

- Avoid; stop collecting bills in cash. There will be no more cash in the business. This will avoid or eliminate the risk of cash register error or the risk of theft of money from the register.
- Reduce; implementing control over the collection of invoices with a step of verifying the amount of the cash, this amounts to reducing the risk.
- Transfer or share; taking out specific insurance for theft means transferring or sharing the risk.
- Accept: not making it a priority and accepting that sometimes, the collection of invoices will include errors whose consequences will have to be resolved on a case-by-case basis, this amounts to accepting the risk.

If existing controls are not sufficient according to the company's "appetite" for risk, additional means of control must be put in place and therefore "risk reduction projects" must be initiated.

vii. Description of the means of control; the objective is to identify the means of control necessary to reduce the risks. Thus, it involves describing control actions, processes, procedures, regulations, etc. For example, when several services work together, it is relevant to describe the transversal process to improve cooperation between services and reduce risks due to poor coordination. Documenting means of control must allow:

- To reduce errors

- To clarify the responsibilities of employees
- To guarantee that controls are always carried out in a consistent manner
- To ensure business continuity in the event of the absence of an employee

The documentation must be adapted. It can be anything from a simple checklist to complete regulations, or even an explanatory video. The important thing is to find the right form which will provide added value through its clarity.

viii. Identification of key controls and description of monitoring; It is essential to decide which controls are worth monitoring. This monitoring ensures that controls are done and done well. Too many controls kill control. Avoid defining too many key controls because then the company has to invest valuable time in their implementation. Establish monitoring mechanisms to ensure that internal controls are operating as intended. This may include periodic internal audits, performance reviews, compliance assessments, etc. Continuous improvement in order to identify gaps and weaknesses in the internal control system and take corrective actions to improve them. This may involve adjustments to processes, updates to internal controls, additional training, etc.

ix. Communication and training of employees to implement internal control; internal control will only become a reality and an effective risk management tool when employees see its usefulness. It is essential that the people in charge of internal control communicate to each employee the actions they will have to take in order to successfully carry out the controls within their scope. This will help to avoid errors, facilitate controls in the event of an audit and have the support of the entire company. Certainly, it is important to show the usefulness of internal control in connection with legal obligations, but above all it is necessary to demonstrate to employees that internal control will give them peace ofmind, fewer errors and fewer oversights. They will be reassured to work in an environment where risks are controlled.

iv. Management of internal control over time; ultimately, even if at this stage, the internal control system is effective, it is important to understand that it will live and evolve with the company. This is not a one-off, isolated act dealt with once and for all. In order for it to always be useful and effective, you must:

- Reassess risks once a year
- Ensure compliance with new laws
- Keep documentation up to date
- Monitor the proper implementation of controls and monitoring
- Monitor risk reduction projects
- Monitor incidents that occur and treat them as a source of improvement

Obviously, changes and adaptations must be followed in updating the documentation and with clear and effective communication. Using internal control

software can greatly facilitate the description and regular management of your system.

The implementation of an internal control system is a critical process for ensuring the reliability of a company's operations and compliance with regulations. By following the ten steps outlined from defining the scope of internal control and identifying activities, risks, and existing controls, to assessing and treating risks, describing control means, and establishing monitoring and communication protocols a company can create a strong framework that maximizes employee and management satisfaction. This system, once implemented, requires ongoing management and adaptation to remain effective as the company evolves. The next essential part is the evaluation of the internal control system, which will involve assessing its effectiveness, identifying areas for improvement, and ensuring that it continues to meet the company's needs and regulatory requirements.

b.Evaluation of the system of internal control.

(Afef Khalil, 2022), states that the evaluation of the internal control system is the second step of the audit approach. Evaluation of the system of internal control is an essential process to ensure compliance, minimize risks and maintain the integrity of an organization's operations. It makes it possible to identify potential weaknesses and put in place corrective measures to strengthen the management and control of activities. It is the method used by auditors to assess internal control related to the main operating cycles and the assets or liabilities that the result then includes two main steps:

- The evaluation of the existence of internal control involves understanding the appropriate procedures and controls for data processing in the company.
- The evaluation of the permanence of internal control includes the verification of the functioning of the internal control on which the auditor decides to rely to ensure that the internal control produces the expected results throughout the period under review.

The Evaluation of the internal control system includes the following steps / processes/phases numbered from i-v:

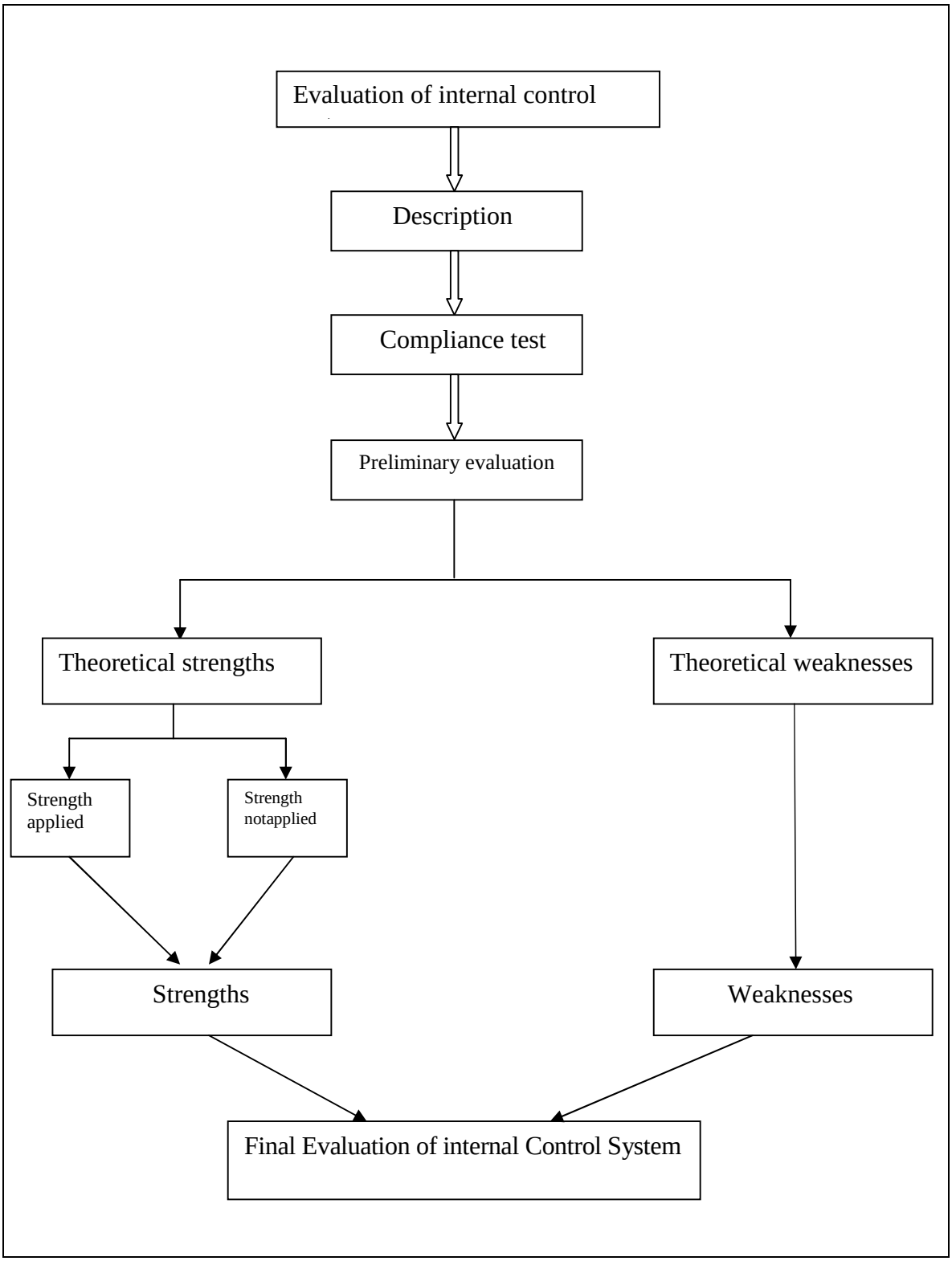
i. The general knowledge or awareness phase of a company;is the initial step where evaluating an internal control system involves auditors gaining a broad understanding of the company and its environment. This preparation stage is crucial for understanding the company’s organization and context, including its internal control mechanisms. Auditors begin by acquiring an overall understanding of various aspects, such as the nature of the company's activities, its head office, size, turnover, previous years' results, applied accounting system, and available human and material resources. They also consider the general organization, governing texts, internal and external audit reports, sector specifics, responsibility centres, and procedure manuals.

   This comprehensive understanding allows auditors to identify general risks associated with the company, including activity or sector risks, organizational and

structural risks, and general policy risks. To gather necessary information, auditors use methods such as formal written requests, questionnaires, informal oral requests, physical observation of processes, and analytical procedures. Analytical procedures involve comparing financial and non-financial data to identify logical relationships and verify the accuracy of records. If deviations are found, auditors investigate further to address any control procedure failures. This vigilant approach in the initial phase sets the foundation for the subsequent audit work, especially the control of financial statements(Afef Khalil, 2022).

Let us then proceed to the other steps as shown in the diagram below after understanding the initial step or phase

Figure 3: Evaluation of internal control system steps



Source; Realised by ourselves from the evaluation procedure

This figure shows the evaluation of internal control system process from description to final evaluation of internal control system which help us identify the theoretical strengths and weaknesses in the system to then later confirm the strength permanently applied and those not applied in the system.

ii. Description**;** the detailed description of the system and internal control procedures is an additional step to general knowledge. Indeed, the auditor uses at this stage all the methods and procedures related to the accounting organization, the preparation and presentation of the financial statements as stated by (Afef Khalil, 2022). This description is made by cycle and has the main objective of identifying the existence or no existence of control points. This allows you to correctly understand the system in order to evaluate it. The auditor is then only interested in internal control procedures related to the audit. To do this, he uses a narrative method (memorandum) or a schematic method based on an organization chart (flow-chart).

During the evaluation of an internal control system, procedures can be described using two primary methods: narrative technique and descriptive technique. The narrative technique, or memorandum, involves a detailed written description of the internal control processes, either by summarizing interviews with company personnel or through the auditor's observations and documentation. On the other hand, the descriptive technique employs flow charts to graphically represent the sequence of operations, using predefined symbols to illustrate document circulation, responsibilities, and decision points within the organization. These flow charts can be presented vertically or horizontally, depending on the document flow's direction. Additionally, questionnaires are used to complement these descriptions, assessing the system's ability to achieve specific control objectives (Allalou, 2019).

iii. Compliance testing; the compliance test is a crucial step in an auditor's evaluation of an internal control system. It involves confirming that the auditor has a thorough understanding of the internal control procedures and ensuring that the documented processes align with the actual operations. To achieve this, the auditor follows a few transactions step by step to verify that the procedures are as described. These tests not only confirm the existence of the procedures but also help in rectifying any misunderstandings in the process description. The scope of these tests is to ensure the auditor has accurately captured and comprehended the operational process within the internal control system (Afef Khalil, 2022).

According to (Allalou, 2019), the nature of compliance tests requires the auditor to select well defined samples rather than examining the entire internal control procedure. The number of samples tested is determined by factors such as the volume of transactions and the associated risks of each type of operation. Initially, a small sample is tested, and if a high number of errors is detected, the sample size is increased. This process is repeated at the beginning of each recurring audit to ensure that no changes have been made to the system, known as progress tests. For

each identified strong point, the auditor performs a functional test to verify its consistent application.

iv. The preliminary evaluation is a theoretical assessment of internal control in the sense that the evaluation tools as well as the results obtained at the end of this stage are purely theoretical. Indeed, on a procedural level, this step is carried out by the use of specific tools consisting of internal control questionnaires, which are closed questionnaires to which the answers can only be yes or no. A positive answer (yes) constitutes a theoretical strength of internal control but a negative answer (no) is a theoretical weakness of internal control. There is also the use of the problem analysis and disclosure sheet or FRAP. The FRAP is the synthetic working paper by which the auditor documents each dysfunction, concludes each phase of the field work and communicates with the auditee concerned. In order to respect the principle of standardization, each FRAP takes the following structure:

- Observation; identifying dysfunctional areas.
- Problem Statement; summarizing the identified dysfunctions. Causes; explaining the underlying reasons for the problems. Consequences; outlining the resulting effects.
- Recommendations; providing solutions to address both the causes and the problems.

On the other hand, the auditor uses the flow chart diagram which is a schematic representation of the procedure described, in order to identify anomalies and weaknesses appearing in the audited system. The objectives of the preliminary assessment are:

- Identify the theoretical strong points and weak points of the system evaluated by referring to the questionnaire and the flow diagram.
- Program the tests to be implemented to verify the real existence of the theoretical forces noted.

v. Permanent tests; the auditor tests that the theoretical strengths of the system are verified in practice and that they are applied consistently. Permanence tests are of a greater scope than conformance tests. These tests give the auditor confidence that the controlled procedures are applied continuously and without failure. In addition, these tests allow the auditor to identify evidence justifying the proper functioning of the internal control system (Allalou, 2019).

v. Final Evaluation of internal control / Conclusion; from the permanence tests, the auditor determines operational weaknesses that arise from poor application of strengths, and design weaknesses identified during the preliminary evaluation. He summarizes for each internal control circuit or cycle, the findings made (weak points in the design and application of internal control) in a summary document called an internal control report. This report must be drawn up in detail and sent directly to management. Indeed, the auditor must identify the weaknesses in internal control, the impact of these weaknesses on the quality of financial

information and the recommendations necessary to combat any possible risk (Allalou, 2019).

Internal control evaluation report; to conclude on the internal control evaluation, the auditor will write an assessment report that will highlight:

- The findings made,
- The strengths and weaknesses,
- The risks,
- The incidents on the financial statements.

This report will serve as a basis for establishing its accounts control program.

The company sets up an internal control system to achieve its objectives. This implementation is not sufficient to control the management of its activities and risks, which requires the company to assess this system to remedy the inadequacies and
failures that exist.

c. Internal control system evaluation tools

Internal control evaluation tools include; tools used in procedure description, Techniques for grasping procedures, tools for evaluating procedures.

i. Tools used in procedure description

Auditors are interested in internal control procedures related to various accounting accounts in financial statements. The company's operations are divided into distinct cycles or modules. This approach allows auditors to follow procedures specific to each type of operation from start to finish. The main operating cycles, common to all companies regardless of size or industry, include purchases, sales, payroll, and inventories. Inventories must also be considered due to their importance.

The auditor uses the following tools to seize internal control procedures:

- The revision of existing documents;
- interviews;
- field excursions and direct observations;
- The use of questionnaires.

Review of existing documentation

During the evaluation phase of the internal control system, the auditor is required to consult the company's existing documents, such as:

- The manual procedure; a manual procedure is an internal document of the company detailing tasks and actions for company operations, signifies effective management, ensures regular operation processing, and boosts employee productivity. Successful auditing relies on the auditor's effective communication and relevant questions during employee interviews.
- The organization chart; it shows the company's structure which helps auditors to understand roles and reporting lines.
- Internal notes; informal records of activities and decisions, providing insights into daily operations.

- Memos; these are formal communications conveying important information which help in various ways for example tracking policy changes.
- Old internal control evaluation reports; these assess past internal control effectiveness hence offering a historical view of improvements and weaknesses.
- Other diagnostic and audit reports; provide additional evaluations of company performance and risks from various sources.

Site visits and direct observations

In the evaluation process of the internal control system, the auditor is required to visit the company's premises for example the stores and observe the process used by the function to be evaluated.

Use of questionnaires

The evaluation of internal control during the audit requires the development of two questionnaires:

- Awareness questionnaire; this questionnaire is essential for the auditor because it allows him to fully understand the function to be evaluated and, on the other hand and to also in the development of the internal control questionnaire;
- Internal control questionnaire; the main objective of this questionnaire is to find anomalies related to the internal control system.

ii. Techniques for grasping procedures

The techniques that auditors can use to enter internal control procedures are; a memorandum, a circulation diagram and task analysis grid:

- Memorandum; the memorandum is a narrative description of internal control procedures. The auditor can write a summary of the interviews and of the documents he has collected and consults. The memorandum allows auditors to have a certain degree of flexibility in the dialogue with various officials and to enjoy certain discretion in facts and procedures. The memorandum is only recommended in simple situations. It is not advisable to use a memorandum to enter long and complicated procedures, in which case it will be necessary to use other techniques.

- Diagram of circulation of documents (Flow chart); a circulation diagram is a graphical description of a group of operations. The circulation diagram follows the progress of the documents generated by these operations in chronological order. The graphic method makes it possible to acquire an in-depth knowledge of the procedures by the auditor.
  There are two types; vertical diagram of circulation of documents used to describe simple procedures and horizontal diagram of circulation of documents used to describe complex and long procedures

- Task analysis grid; the analysis grid helps to answer the question: who does what? It's crucial for spotting incompatible functions. For example, the purchasing manager does three main things: making orders, checking invoices against orders, and paying suppliers. Using the grid, the auditor realized that the purchasing manager was doing tasks that shouldn't be done together like both controlling and doing operational tasks.

iii. Tools for evaluating procedures

- Compliance test; once the internal control procedures are described and entered in the form of a narrative (memorandum) and diagram of circulation of documents (Flow chart), auditors must finally ensure that the procedures they deem necessary are the same as the actual procedures of the company.

- Modalities; some of the means that auditors can use to verify the existence of control procedures include:
  Direct observation; observe the process of operation of the procedure;
  Verbal confirmation; stay in touch with the performers involved in the control procedure to confirm the progress of the procedure;
  A posterior observation; trace the sequence of the procedure path indicated in the circulation organization chart (or memorandum) in checking the various operations carried out.
- Quantitative importance of the test; the quantitative importance of the conformity test is about confirming a procedure's existence rather than its ongoing performance. Auditors don't need to examine a large sample; they focus on specific elements to determine if the control is in place.
- Permanence test; the permanence test is carried out using surveys. Thanks to these surveys, the auditor can easily obtain information about a large population

d. Advantages of internal control.

On the literatures reviewed on previous studies we can now identify the following advantages that may arise for an entity from instituting and effectively implementing a sound system of internal control:

- Financial reporting accuracy; one of the most significant benefits of an internal control system is its contribution to financial reporting accuracy. Reliable and trustworthy financial statements are essential for decision-making, maintaining stakeholder confidence and avoiding regulatory penalties. An internal control system ensures that financial data is recorded accurately and reported in accordance with accounting principles and regulatory standards

- Risk management and asset protection; identifying and reducing business risks is a crucial aspect of an internal control system. By conducting risk assessments and implementing appropriate controls, organizations can proactively address potential threats. This approach enables businesses to respond more effectively to risks and seize opportunities with greater confidence. Furthermore, internal controls help to

protect the organization's assets from theft, fraud, and misuse. This means that the organization's resources are less likely to be lost or wasted, helping to ensure its long-term success.

- Improved operational efficiency; a well-designed internal control system streamlines processes and workflows, leading to improved operational efficiency. By defining clear processes and responsibilities, organizations can eliminate redundancy, minimize errors, and increase productivity.

- Meet compliance requirements; in a constantly evolving regulatory environment, keeping up with compliance and governance is critical to avoid legal repercussions and establish a strong ethical and sustainable image for your business. Internal control systems assist companies in meeting regulatory requirements by ensuring that policies and processes align with relevant laws and standards. This holds particular significance for businesses in heavily regulated sectors like healthcare, finance, and energy. Moreover, a robust internal control system mitigates legal and financial risks, protecting the organization from potential lawsuits and reputational damage.

- Segregation of duties; the segregation of duties is an essential part of any internal control system. This means that the company assigns different individuals to carry out specific control tasks. The idea is to prevent one person from gaining sole or excessive control and then misusing that authority for nefarious or unauthorized purposes, such as committing fraud or misappropriating company funds. Here comes also the principle of "need-to-know" into play. It requires that a user must have access solely to the information essential for their job function. This ensures that access is strictly limited to the user's current role and only granted when there is a genuine need for fulfilling their responsibilities.

- Transparency is the foundation of a trustworthy and ethical business environment. An effective internal control system fosters clear accountability and responsibility, ensuring that employees understand their roles and obligations.If processes are clear, it is also easier to identify areas for improvement. This leads to a culture of continuous improvement within the organization, where feedback and lessons learned are used to increase efficiency and effectiveness.

- Effective risk management; by implementing internal control processes and procedures, organizations can identify, assess and mitigate operational, financial and compliance risks, reducing potential losses and strengthening business resilience against to challenges.

- Asset protection; internal controls help protect company assets against fraud, theft, misuse and other forms of misappropriation. This includes implementing physical, IT and procedural controls to ensure the security of the company's tangible and intangible assets.

e. Limits of internal control

Internal controls are processes, policies, and procedures designed to provide reasonable assurance regarding the achievement of an organization's objectives. While they are essential for safeguarding assets, ensuring accuracy of financial records, and promoting operational efficiency but they have limitations. The following are the limitations of internal controls:

- Errors of Judgment; internal controls are designed and implemented by humans. Most of these controls, management use judgments in designing and implementing them and hence there can be errors in either the design stage or implementation stage.
  Incorrect judgments could be as a result of inadequate information available during the design or implementation stage.

- Failures; flaws in controls established can occur when there is miscommunication. Errors can also occur when there is lack of adequate training ofpersonnel of the organization. Complexity of information technology usage can also cause failures in the control systems.

- Management override; this occurs when a senior manager bypass protocol.
  There is a high risk involved when senior management are able to override laid down
  policies or procedures for legitimate course of action.

- Collusion; when two or more individuals come together to defraud the organization, they can be said to have colluded. When these employees carry an important control function, can perpetuate fraud and hide the evidence.

- Resource limitations; due to the scarcity of resources, organizations have to prioritize the control activities to make the use of resources. In other words, resources are not available to put every control activity into practice.

1.1.3.Purchasing

Purchasing is a crucial function in any organization, involving the acquisition of necessary goods and services. This subsection includes the essential definitions, the main objectives of the purchasing cycle, the company's specific purchasing procedures, and the internal controls that ensure efficient and secure operations. To start we will define the terms related to purchasing by establishing these definitions, it will help us frame our exploration of the objectives, procedures, and internal controls involved in the purchasing cycle.

a.Definitions related to the purchasing

According to (Kenneth Lysons, 2006), the definition of purchasing can be approached from several perspectives. Such perspectives include those of function, cycle, procurement and difference between purchasing and procurement:

- Purchasing refers to the buying materials of the right quality, in the right quantity from the right source delivered to the right place at the right time at the right price.
- Purchasing as a function is a subset of the broader procurement process and specifically focuses on the functions associated with buying goods and services, such as creating purchase orders, expediting orders, acknowledging invoices, and making payments.
- Purchasing cycle is the series of steps that organizations follow to acquire goods and services from external suppliers or vendors. It involves activities like needs analysis, needs clarification, creating purchase requisitions, generating purchase orders, authorization, and payment processing.

Procurement is the process of acquiring goods, services, or works from an external source, typically through purchasing or contracting. It involves various activities such as identifying needs, sourcing suppliers, negotiating terms and prices, issuing purchase orders or contracts, receiving and inspecting deliveries, and managing supplier relationships. In essence, procurement involves all the steps necessary to obtain the necessary resources required for an organization's operations or projects in a cost effective and timely manner. There are different types of procurement and they are as follows:

- Direct procurement is the purchase of goods or services that are essential to the organization's core operations. A primary method of procurement management, direct procurement can be done through a variety of processes, including open tender, restricted tender or single-source procurement;
- Indirect procurement, also known as indirect spend, is the purchase of goods and services that support the organization's core operations, but are not essential. These goods and services may include office supplies, catering services, travel arrangements, and maintenance contracts;
- Services procurement is the process of acquiring services (as opposed to goods) from external suppliers;
- Goods procurement is the process of acquiring physical items from external suppliers. Goods procurement can include the purchase of large and specialist items, such as medical equipment, vehicles, and construction materials.

Purchasing and procurement differ in a way that purchasing involves transactional aspect of acquiring goods or services. It involves activities such as identifying needs, selecting suppliers, negotiating contracts, placing orders, and managing supplier relationships. Purchasing focuses on obtaining the right quantity of goods or services at the right price and quality, ensuring timely delivery to meet the organization's needs. The main goal of purchasing is to fulfil short-term needs by acquiring the right quality, quantity, cost, time and place. On the other hand, procurement involves a broader set of strategic activities beyond just buying goods and services. Procurement involves the entire process of acquiring goods, services, or works from external sources. This includes sourcing suppliers, strategic decision-making, supplier relationship management, risk management, and sometimes even disposal or recycling of goods. The objectives of procurement are long-term, such as reducing total cost of ownership, mitigating risks, and gaining

competitive advantage. With a clear understanding of the term purchasing, we can now move on to the objectives of the purchasing cycle.

b.Objectives of the purchasing

According to (Victor H. Pooler, 2004), for any purchasing function to be successful, it must establish clear and measurable objectives, and work diligently to achieve them. In order maximize its contribution to the company's overall performance, purchasing must establish the following objectives:

- To ensure economic supply by the procurement of goods, supplies, and services to keep the company in operation
- To contribute to profits by efficiently controlling the flow of money passing through the operation
- To get the best buy suitable quality at minimum cost.
- To pay reasonably low prices, negotiating and executing all company commitments.
- To develop satisfactory sources of supply and maintain good relationships with them.

After clearly listing the objectives of purchasing, we then turn our attention to the purchasing procedures within the company. This part describes the step by step processes and protocols that the organization follows to manage procurement activities efficiently and effectively.

c.Purchasing procedure within the company

According to (Mwobobia, 2020),companies regularly need to purchase goods and services to meet their needs, and having a formalized purchasing process is essential for maximizing the value of all expenditure. Implementing best practices in purchasing helps reduce waste, minimize risks and unnecessary expenses, and develop efficient workflows that boost profitability and value. A structured purchasing process prevents issues like fraud, over spending, and theft, while also enhancing overall efficiency in buying both direct (e.g., raw materials) and indirect (e.g., office supplies) goods and services. It supports successful supplier relationship management, optimal supply chain management, and strategic sourcing, contributing to cost savings and value.

The purchasing process or procedure is a cycle with each step requiring the exchange of information and various approvals to move forward. Every company can add to the process but generally the purchasing process follows a well-established pattern of steps numbered from **i-viii** which include;

i. Expression of a need; The process begins with identifying the company’s needs. This involves determining what goods or services are required to support the company’s operations. At this stage, the company recognizes and documents a need for goods or services to solve a particular problem. The procurement team describes the need to be met, and works with others to determine how best to do so.

ii. Purchase request to purchase order; a purchase request is submitted to the purchasing department or purchasing manager by the individual, team, or department requesting the goods or services. The purchase request contains full details on the items or services to be obtained.

Purchase requests below established budget limit are automatically updated to purchase orders, and submitted to the preferred supplier for that item or service. More expensive purchases, or unexpected purchases not in the budget, will be forwarded to the appropriate individuals for review and approval before they can be transferred to purchase orders.

Rejected purchase requests are returned to the issuing party for review and correction or clarification as needed.

iii. Purchase order review and approval; approved purchase orders are sent to accounting to verify the funds exist in the appropriate budget to cover the requested goods and services.

iv. Requests for Proposal; purchase orders that receive budget approval are returned to the procurement department and, as required, used to create requests for proposal (RFPs), also known as requests for quotation, or RFQs. These are dispatched to vendors to solicit bids to fulfil the order for goods or services.

Potential suppliers submit their bids, and are carefully reviewed based on their performance history, compliance records, and important characteristics such as average lead times, reputation, and price.

v. Contract negotiation and approval; the vendor with the winning bid is then awarded a contract, which is further refined before signing to ensure optimal terms and conditions and to ensure a mutually satisfactory arrangement for both parties. Once the contract is signed, the purchase order is a legally binding agreement between buyer and seller.

vi. Shipping and receiving; the supplier delivers the goods or services within the agreed-upon timeframe. Once they've been received in the case of goods or performed in the case of services, the purchaser carefully reviews the goods and services to ensure they've received what was promised, and notifies the vendor of any issues.

vii. Three-way matching; three-way-matching is the comparison of shipping documents/packing slips with the original purchase order and the invoice issued by the supplier. This comparison is used to ensure all the information related to the transaction is accurate.

Deviations must be rectified as soon as possible to avoid additional charges, delays in production and payment, or damage to supplier relationships.

viii. Invoice approval and payment; successfully matched orders are approved for payment. Any modifications or additional charges may require another layer of approvals before payment can be issued. Once approved, payment is issued to the

vendor. Ideally, such payments are made with the goal of capturing early payment discounts and other incentives while avoiding late payment fees. Accounting records update completed orders are recorded in the company's books, and all documents related to the transaction are securely stored in a centralized location.

Documents used in the purchasing procedure

The following documents are the documents used in the purchasing procedure:

- Purchase requisitions; this document is a request for goods or services by authorized individual department within the entity.
- Purchase orders (POs) are documents sent from the buyer, to a supplier with a request for products or services as an order. Each PO will include a number for tracking the purchase order throughout the system, as well as the type of item, quantity, and agreed upon price. More specific orders will include more details, but as a general rule, the more information you include, the more effective your PO is.
- The invoice is used when demanding or requesting for payment
- Delivery note is like an invoice but is sent when goods are being delivered to the customer. It contains names of the buyer and supplier, date, quantity of product, price and terms
- Credit note shows the amount of money that is supposed to be returned to the customer for damaged goods.
- A debit note; this is sent to the buyer to correct undercharges
- Statement of account is used to show the customer the amount of money that he is due to pay. It is sent by the seller.
- Receipts for cash payments is a document sent to confirm that money or cash has been received
- Pay-in slip-show the amount of money that has been deposited in the bank or has been paid

After the description of the purchasing procedures and listing the documents used in the purchasing procedure, we then explored the internal controls implemented within the purchasing cycle.

d. Internal controls applied for control of purchase transactions during the purchasing procedure

The following are the internal control procedures applied for control of purchase transactions during the purchase procedure (Temedebere, 2020):

There are seven key control procedures to manage purchase transactions effectively:

- Segregation of duties; effective control involves separating the purchasing function from requisitioning and receiving functions, and segregating invoice processing from accounts payable to avoid conflicts of interest and reduce the risk of errors or fraud.
- Authorization; to prevent unauthorized purchases or purchases at unauthorized prices or terms, an authorization schedule specifying purchase limits for different employee levels should be used.

- Completeness; to ensure all purchases are recorded, which prevents understatement of assets, expenses, and accounts payable, control tests include verifying the numerical sequence of purchase orders, receiving reports, and vouchers, and matching receiving reports with vendor invoices.
- Timeliness;proper controls must ensure that purchase transactions are recorded promptly. For instance, receiving reports should be forwarded to the accounts payable department daily.
- Valuation; ensuring purchases are recorded at correct amounts involves proper pricing and accurate calculations. This control objective prevents misstatements in transaction valuation.
- Classification; accurate classification of purchase transactions is essential to prevent misstatements in asset and expense accounts. Proper documentation, such as a chart of accounts, helps achieve this objective.
- Validity; auditors focus on ensuring purchase transactions are genuine, as fraudulent entries can overstate assets or expenses and lead to improper payments. This is controlled by segregating duties between requisitioning, purchasing, accounts payable, and disbursement functions.

Following our examination of the internal controls in the purchasing cycle, is the section of management of operational risks.

1.2.Management of Operational Risks.

In this section on the management of operational risks, we begin by defining operational risks and outlining their various types. We then move to the significance and objectives of risk mapping, emphasizing its role in identifying and understanding potential threats. Following this is the operational risk management process is explored in detail, covering key stages such as risk identification, analysis, evaluation, treatment, and ongoing monitoring. Additionally, the section highlights the roles played by different individuals in risk management and internal control, showing the relationship between internal control and management of operational risks. This section begins by defining operational risk and setting the stage for an exploration of the types of operational risks companies encounter. We will explore the concept of operational risks within a company.

1.2.1.The concept of operational risks in a Company

In this sub section, we are going to explore the concept of operational risks in a company, starting with the definition of operational risks. These risks cover a wide range of potential disruptions, from human errors to system failures and external events like natural disasters. By discussing the different types of operational risks, we will gain insight of the various sources and causes that can impact a company's operations. Operational risks are a critical consideration for companies, surrounding a wide range of risks arising from internal processes, systems, people, or external events. We shall then examine the potential impact of operational risks on a company because understanding these impacts is crucial for effective risk management.

a.Definition of the concept of Operational Risks.

Before we define the term operational risk, it is important to first look at the general definition of the concept of risk. According to IFACI, risk can be defined as a set of hazards likely to have negative consequences on an entity and for which internal control and audit have a mission to ensure control as much as possible.

International Organization for Standardization (ISO) also defines risk as the combination of the probability of an event and its consequences, emphasizing that risk is not transformed from a hazard unless it affects areas with human, economic, or environmental stakes and a certain level of vulnerability.

Risk is defined as uncertainty concerning the occurrence of a loss (George E. Rejda, 2021). According to(Ray, 2015), risk is defined in relation to the danger. If there is nodanger, there is no risk. Since risk is defined relating to danger lets explain what danger and threat means

Danger is a potential source of damage, harm or harmful effect to a person, an organization or the environment. It may cause adverse health effects, property losses or environmental impacts. Danger is intrinsic to a situation or object and can be misinterpreted as the harm itself.

A threat is an intentional danger; it is caused by a deliberate action of an individual or a group of individuals. It is a word, a gesture, an act by which we express the will of

to do harm, to show anger.
We should not confuse risk, danger and threat because danger is the potential source of damage, while risk represents the possibility that this danger materializes. Danger is a situation that can produce harm, a threat is a situation that can compromise someone's safety, health or existence, and risk is a possibility of an uncertain future event associated with a situation or an activity. Understanding this distinction allows better assessment of risk situations and appropriate management in the company.

There are different types of risks like operational risks, financial risks, compliance risks, strategic risks, reputation risks, cyber security risks, human resource risks, environmental and social Risks.
In our dissertation we are going to concentrate on operational risks in the company related to the purchasing cycle. Let us now concentrate on explaining and understanding the operational risks in a company.

Definition of Operational Risks.

Operational risks are present in all companies. The incidents show that unexpected events can occur and seriously harm the companies in various sectors. The scope of operational risk is vast and it covers different risks. Capturing it in a single definition is a challenge. As a result, definitions abound. According to (Ioannis S. Akkizidis, 2005) defines operational risk in Guide to Optimal Operational Risk and BASEL II as: ‘The risk of losses resulting from inadequacy or failure attributable to procedures, personnel and internal systems, or to external events’
According to the commonly accepted definition, and taken up by the European Directive (Amadieu, 2006), "operational risk" means the risk of losses resulting from inadequacy or failure attributable to internal procedures, personnel and systems, or external events.

b. Types of operational risks
According to (Thai, 1999) he identifies various types of operational risks, namely:
the risks of malfunction which include:

- Lack of competence of staff in the event of replacement for leave or permanent departure;
- Errors, oversights, lack of attention.
- Disruptions resulting from changes in management without prior information.

The risks of fraudulent manipulation which are characterized by:

- Collusion between several people
- Non-compliance with procedures.

(Chapelle, 2019)Basel II completes this initial classification by distributing operational risks into seven (07) categories:

- Internal fraud; this concerns losses linked to acts committed within the company aimed at committing fraud or misappropriation of assets or violating a legislative or regulatory provision, or company rules.

- External fraud; these are losses linked to external acts aimed at committing fraud or misappropriation of assets or violating a legislative or regulatory provision;
- The inadequacy of internal practices concerning human resources and workplace safety; losses linked to acts contrary to legislative or regulatory provisions, or to agreements relating to employment, health or safety, to the repair of personal injury or discriminatory practices or practices contrary to the rules regarding professional equality.
- Customers, products and commercial practices; which result in losses due to a deliberate or unintentional breach of a professional obligation towards a customer, the nature or characteristics of a product.
- Damage to physical assets; is caused by damage to physical assets resulting from a natural disaster or other events.
- Business interruption and system malfunction: are losses resulting from malfunction or systems.
- Dysfunction of processing processes (execution, order placement, delivery, process management): concerns losses linked to shortcomings in transaction processing or process management and relationships with commercial counterparties and suppliers.

Also (Camara, 2006) identifies different types of operational risks which are:

- The risk of fraud; it can be defined as the illegal act by which a person or a group of people extract funds from the company;
- Administrative risk: this is any event or fact linked to a poor definition of work procedures.
- Legal risk; legal risk means the losses that the company may suffer due to poor understanding of the law and its application;
- Physical security risk; this is the probability of harm to the physical integrity of the organization's assets and employees;
- IT security risk; this is the risk of computer breakdown.

c. Sources and causes of operational risks in a company

Operational risk comes from four main sources according (David Tattam, 2011) and they are as follows:

- People; operational risk caused by people can arise due to employee deficiencies or employee shortages. For example, a company may not have staff that has the knowledge needed to work on a specific problem. On the other hand, a company may not have an appropriate quantity of employees on hand to properly address peak season or the busier times of the year. Operational risk can come from deliberate and non-deliberate actions for example; human errors, poor judgment, and malicious intent by employees.
- Processes; operational risks can arise due to weaknesses or failures in a company's processes, leading to negative outcomes like production delays, financial losses and many others. For example, in production companies, operational risks can arise

from disruptions in the supply chain, equipment malfunctions, or quality control issues.

- Systems; companies that rely on software and systems to operate their business. Operational risk includes the chance that these systems are outdated, inadequate, or not property set up. There are also performance considerations, as operational risk includes the chance that one company's systems are not as efficient as a competitor's.
- External events; this covers all risks that are external to the organization such as acts of nature and changes in legislation. Others can be simply a nature of business such as a third-party defaulting on a contract agreement and failed suppliers.

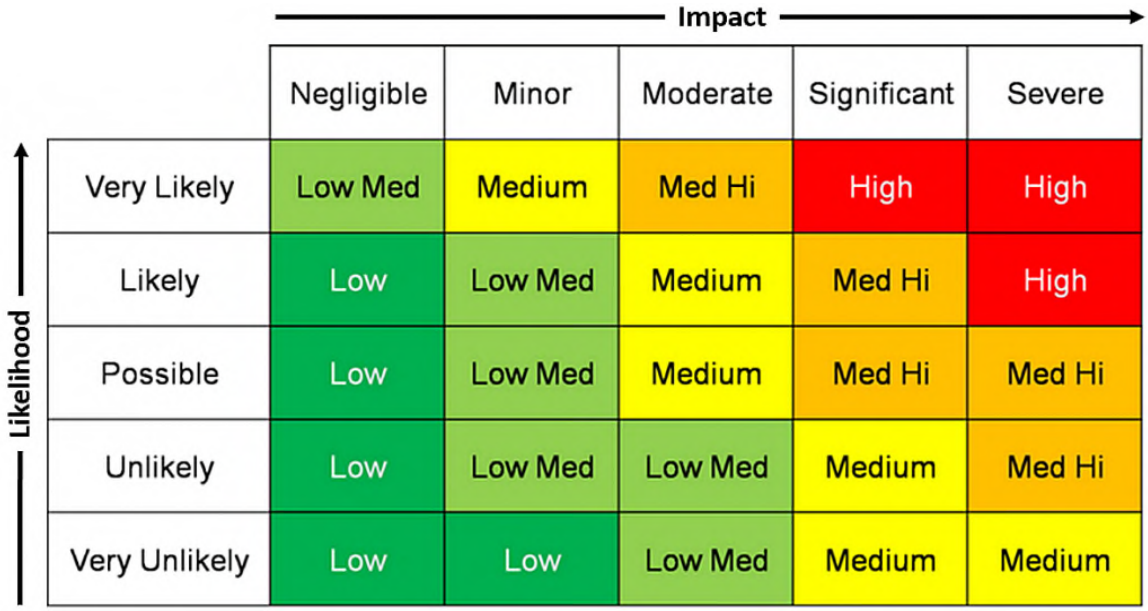
Having defined and examined the types and sources of operational risks, we then transition to the next crucial aspect which is risk Mapping, also known as the Cartography of Risks.

1.2.2.Risk mapping (cartography of risks)

Risk mapping is a strategic tool used to identify and visualize risks within an organization, allowing for a comprehensive understanding of potential threats and their impact on the company's objectives. It involves categorizing risks based on severity, likelihood of occurrence, and impact, enabling businesses to prioritize and implement effective risk management strategies. Risk maps illustrate the complementary nature of probability and impact in a simple, easy to understand format. In essence, the risk map is a pictorial representation of the risks that have been identified and then plotted against the x and y axes of a graph to indicate the impact of the risks on company operations and the probability of the risks actually occurring (Cowan, 2005). Risk mapping makes it possible to identify the major risks of an organization and present them synthetically in a hierarchical form. This hierarchy is based on the following criteria:

- the potential impact;
- the probability of occurrence;
- the current level of risk control

Figure 4: Risk map (cartography of risks) which shows the probability of a risk occurring and the impact if it occurs



Source: Adapted from risk matrix followed during risk assessment (Boers, 2017)

According to (Cowan, 2005), using a colour code also assists in drawing attention to areas that need close management attention, for example red immediately indicates danger or, in this context, a combination of high impact or probability. Yellow indicates a medium level of concern and Green indicates those risks which need to be tracked but pose low levels of threat. The map assists in concentrating attention on those risk most in need of management attention and action and is complementary to the risk register, which documents all the risks which have been identified and relevant data in respect of their management.

a.Objectives of Risk Mapping (Cartography of Risks).

Establishing a risk map makes it possible to achieve the following objectives:

- Meet the regulatory obligation to communicate on risks;
- Identify and assess the risks linked to non-compliance;
- Reduce operational risks;
- Develop the audit plan;
- Identify and manage risk/opportunity pairs or prioritize themrisks identified (going from most important to low);
- Facilitating decision-making by visualizing risks and their potential impact.
- Aligning risk mitigation priorities and resources to the most significant risks.
- Reducing insurance costs by demonstrating a comprehensive risk management strategy.

b.Process of developing a risk Map (Cartography of Risks).

The process of developing a risk map follows the steps below numbered from i-vi:

i. Risk Identification; According to (Frédéric Bernard E. S., 2008), this is the first step. It is based on the interviews carried out with the questionnaires, to be in able to determine the organization's risks in relation to the defined perimeter. Basic risks are

identified for each entity processes. A risk nomenclature, or BRM(Business Risk Model), is proposed as support for this identification. Each risk is described precisely according to its attributes such as:

- The class of risks (e.g.: image, social, health, information, operational, etc.);
- The origin of the causes (e.g.: natural, human, technical, economic, etc.);
- The resulting consequences (e.g.: operating losses, damage to
- people, etc.);
- The resources allocated (e.g.: human, technical, financial, etc.).

ii. Risk assessment**;** analyse the identified risks to evaluate their potential impact and probability of occurrence. Estimation of each risk for each function / activity. Risk assessment considers impact, probability, and other criteria, producing maps of net risks (Frédéric Bernard E. S., 2008) the estimate will focus on two points:

- Assessment of the impact of the risk (severity);
- Assessment of the estimated vulnerability (frequency).

For this double evaluation, the internal auditor is generally satisfied with a scale of three positions: weak, medium and high.

Calculation of the specific risk of each activity/function; it will be the result of the product of the two specific assessments. Risk = severity * vulnerability. The assessment will be equal to the accumulation of all the coefficients identified for each risk concerning this activity. It is of course understood that not all risks appearing in the nomenclature exist for all activities.

iii. Risk prioritization/ranking; rank risks according to their potential impact and likelihood of occurrence. This allows efforts to be focused on the risks most critical to the organization.

iv. Risk mapping; create a graphical visual representation of identified risks, placing them on a map or matrix based on their likelihood and impact. This allows you to visualize the most significant risks and determine appropriate management measures**.**

v. Data analysis, communication and implementation; analyse risk data to determine risk trends and concentration. Present risk mapping results to key decision makers and implement plans to manage identified risks.

By following these steps, you can effectively develop a risk map that helps your organization better understand, prioritize and manage the risks it faces. Reporting concludes the process, communicating findings to relevant management levels. Strengthening culture and sharing best practices follow, involving organizational learning, formalizing measures, employee training, and internal/external communication (Frédéric Bernard E. S., 2008).

Moving forward, we now shift our focus to the operational risk management process.

c. The methods and approaches of operational risk analysis

We are going to mainly look at two methods of operational risk analysis; the binomial method and the simulation method.

The binomial method in risk analysis is a quantitative technique used to assess the probability and impact of risks by modeling risk events as binomial trials. This method is based on the use of the binomial distribution, which describes the number of successes in a sequence of independent trials where each trial has two possible outcomes: success or failure. Operational risk analysis using binomial methods can be done using two main approaches: bottom-up and top-down (IFACI, 2013). These approaches differ in how they identify, assess, and manage risks. Here is an overview of each approach as applied to binomial methods:

i. Top-down approach

The top-down approach starts from the general management and goes down to the operational units. It is often more strategic and global, focusing on risks that could affect the entire organization. This approach is based on an overview of risk managers and a risk analysis by experts. The analysis of each of these risks is by causes, control devices and associated consequences to estimate the quantification parameters and to carry out a more precise assessment This is an approach that consists of collecting risks by the management committee. It takes place according to the following steps:

- Identification of risks and their assessment.
- Reconciliation of these risks with the company's risk nomenclature.
- Reconciliation of these risks with the company's processes.

ii. Bottom-up approach

The bottom-up approach starts at the level of basic operations and goes up to the general management. It focuses on identifying risks specific to each activity, process or business unit. It consists of analyzing in a global and systematic way the operational risks and controls associated with each identified process. It is based on the following steps:

- Identification of processes.
- Identification and rating of risks at the level of each process.
- Identification and evaluation of existing control elements.
- Residual risk rating

The simulation method of operational risk analysis is a systematic process that uses statistical models and data to simulate various scenarios that could lead to operational risks. It involves modeling the potential risks and their consequences, allowing for the estimation of the probability and potential loss associated with each risk. Several approaches are used in the simulation method of operational risk analysis:

i. Risk matrix; this involves creating a matrix that categorizes risks based on their likelihood and potential impact. This helps in prioritizing risks and identifying those that require immediate attention.

ii. Scenario analysis; this involves identifying specific scenarios that could lead to operational risks and analyzing their potential impact. This approach helps in

understanding the potential consequences of different risk events. Scenario analysis involves creating detailed and plausible scenarios that describe how operational risk events might occur and their potential impacts. It includes the following steps

- Develop scenarios based on expert judgment, historical data, and potential future changes.
- Simulate the occurrence of these scenarios and their impacts.
- Analyse the results to understand potential risk exposures.

iii. Monte carlo simulations; this involves using random sampling to simulate different risk scenarios and estimate the potential losses associated with each. This approach helps in quantifying the uncertainty associated with operational risks.

iv. Business continuity planning; this involves identifying potential disruptions to business operations and developing strategies to mitigate their impact. This approach helps in ensuring the continuity of operations in the face of operational risks.

v. Data-driven analysis; this involves using historical data and statistical models to identify patterns and trends in operational risks. This approach helps in identifying the most critical risks and developing targeted risk management strategies.

Simulation methods are powerful tools for operational risk analysis, providing awareness into the potential impacts of risks and helping organizations develop effective operational risk management strategies. By using approaches such as Monte Carlo simulation, scenario analysis, agent-based modeling, discrete event simulation, and system dynamics, organizations can better understand and mitigate operational risks.
After having understood the methods of the operational risk analysis, let us proceed to the operational risk management process.

1.2.3.Operational risk management process

Operational risk management is a crucial aspect in the enterprises, as it aims to identify, assess, and reduce the potential losses that can arise from internal or external events that can impact the company's operations. Effective operational risk management involves a process that includes risk identification, risk analysis, risk evaluation, risk monitoring and review to ensure the company's ability to withstand and recover from potential disruptions. By adopting a strong operational risk management framework, enterprises can significantly reduce the likelihood and impact of operational losses, thereby enhancing their overall resilience and stability.
When conducting operational risk management, it's important to follow a structured process. However, the specific goals of managing operational risks can vary depending on the type of organization or company. (David Tattam, 2011)explains that these objectives may differ still depending on each company. Some key includes:

- Identifying opportunities related to operational risks.

- Enhancing the culture of control, awareness, transparency, and accountability regarding risks.
- Decreasing avoidable losses and insurance expenses.
- Safeguarding and improving reputation or credit ratings.
- Enhancing the effectiveness and efficiency of controls and risk management procedures.
- Determining and assigning capital for losses due to operational risks.

a. Risk identification

This stage involves one or more processes to allow continual identification of the risks to which the organization is exposed(David Tattam, 2011). Risk identification is the process of finding, recognizing and recording operational risks. Making operational risks visible means they are made manageable. Identification of operational risks involves risk awareness. Being aware of the range of risks to which an individual or organization is exposed is the first stage of being able to manage risk. You cannot manage something of which you are not aware (David Tattam, 2011).

In order to identify the operational risks, it is essential to first define the scope of activities to be analysed and the risk events. The scope to be analysed, includes all activities conducted within the enterprise. This involves a comprehensive understanding and modelling of these activities to facilitate the identification of associated operational risks. Risk events are associated with each operational process identified in the process nomenclature. In this step we seek to identify all the risk events which may occur during a process and which could have consequences on its progress. Some events can be found as risk events in a large number of processes, for example human error or interruption of the information system.

The process involves breaking down the company's activities into professions and processes, to which risk events will be associated.ISO 31010 provides a toolbox of risk identification techniques like brainstorming, structured interviews, Delphi method, checklists, preliminary hazard analysis (PHA), and hazard and operability studies (HAZOP that organizations can use to systematically identify potential risks to their objectives. The standard emphasizes the importance of involving knowledgeable individuals in the company and considering a wide range of risk sources.

b.Risk analysis.

The goal of operational risk analysis is to further assess the identified operational risks by placing them into categories and gain an understanding of the level of risk (also known as risk profile). Once the risks have been identified, this step involves an analysis as to the likelihood of occurrence and the consequence if the risk were to occur. This leads to an assessment as to the overall size of the risk and of its relative importance to other risks(David Tattam, 2011).During the risk analysis process, existing mitigating measures (controls) are considered and their effectiveness can be deducted from the level of risk.

ISO 31010 (2009c) states that multiple qualitative, semi-quantitative or quantitative approaches can be used depending on the application and the quality of analysis an organization requires.

Analysis of risks involves determining significance of the risks, evaluation of the probability (or frequency) of occurrence, taking into account the way in which the risk must be managed, i.e. assessment measures that should be adopted determine the probability of impact. This involves evaluating how likely each identified risk is to occur and the potential impact it could have on the organization. A risk matrix is often used to classify and prioritize risks based on their likelihood and potential impact. This helps to focus on the most critical risks that require immediate attention. A helpful way is to use scales or levels from 1 to 5 to determine how low or high the probability of occurrence is and how severe the consequences are. The next step is to analyse the correlation between probability and impact to establish the score for each risk and help you prioritize preventive actions.

c.Risk Evaluation

Once the risk is analysed and its size is determined, the risk needs to be assessed against predetermined levels to determine whether it is within the risk appetite tolerance of the organization and, if not, what level of escalation is required. In the operational risk evaluation stage the significance of operational risks resulting from the analysis is compared on a judged based on predefined thresholds and criteria. The goal is to prioritize major and minor operational risks that require a form of further treatment. This step is also intended for filtering small risks with low likelihood and little impact, such as operational risks that require no additional attention at this moment.

d.Risk treatment

Once the various operational risks have been identified and measured, they may need to be treated (David Tattam, 2011). The treatment of operational risks includes the following techniques:

- Risk acceptance; this occurs where no further treatment is implemented and the current level of risk is formally accepted.
- Modifying Controls; modifying either likelihood and-or consequence reducing controls. This may either reduce or increase the risk compared to current levels.
- Risk avoidance; this involves ceasing the activity that is causing the risk.
- Risk transfer; this involves the consequence of the risk being transferred to a third party, such as insurance.
- Risk commencement or risk increase; this can occur when controls are relaxed or removed as they may be inefficient or curtailing business, or where a process is reengineered and new risks arrive.
- Risk transformation; this occurs where one or more risks are transformed into one or more other risks. This is a combination of risk avoidance and risk commencement. An example would be where a manual process is outsourced.

This eliminates human error risk but introduces a new failure of outsource supplier risk.

e. Risk Monitoring and review

Operational risk is dynamic and ever changing. According to (David Tattam, 2011),this step requires a process of ongoing monitoring and review to ensure risks are continually identified, analysed, evaluated and treated. The operational risk management function within the organization is responsible for continuously monitoring operational risk management, internal and external environment, risks and mitigating measures (controls) for its performance and possible changes. The key steps in this stage are:

- Regularly review the risks identified in the risk register and document any actions or events that change the status of a risk.
- Partners should review the risk register periodically, such as at monthly meetings, to determine if any immediate remedial action needs to be taken.
- Assess the effectiveness of the risk management framework to ensure continuous improvement of risk management in the organization This includes evaluating the risk culture, communication effectiveness, and lessons learned from incidents.
- Ensure the context for risk management remains relevant by reviewing the organization's objectives and internal/external environment The assessment criteria used in the risk framework also need to be reviewed for continued relevance.
- Monitor the risks continuously to determine if there are any changes to their prevalence and severity The original list of identified risks should be reviewed and updated on a regular basis.
- Track and monitor the results of risk treatment initiatives to ensure risks are managed effectively and remain within acceptable limits Inform business managers and senior leaders about progress toward risk management goals and any relevant changes that might have organizational impact.

Transitioning from the operational risk management process, our attention now shifts to the actors involved in risk management and internal Control.

1.2.4. Actors in Risk management and internal control

(AMF, 2010) states that risk management and internal control is everyone's business, from the governance bodies to all of the company's employees, below are some of the main actors:

- General Management or Executive Board; it designs and implements the company's internal control and risk management systems, ensuring they are suitable for the company's size and activities. They continuously monitor and improve these systems, initiating corrective actions as needed and ensuring timely communication with the board and audit committee.

- Board of Directors or Supervisory Board; the board reports on risks and uncertainties as required by law, reviews the internal control and risk management systems, and ensures they align with company strategies and objectives. The board

monitors system operations for reliability and can take additional actions for further checks or initiatives.

- Audit Committee; the audit committee is independent of the directors hence also ensuring the independence of internal auditors from management and this committee approves the internal audit policy and plan and benefits from the results of audit missions, in particular on the insight given in terms of internal control.

- Risk Manager; the risk manager, if present, oversees the deployment and implementation of the risk management process as defined by general management. They establish a structured system to identify, analyse, and treat major risks, providing support to the company's operational and functional departments.

- Internal Audit; the internal audit service evaluates the functioning of risk management and internal control systems, conducting regular monitoring and making recommendations for improvement. They raise awareness and train management on internal control, but do not handle daily implementation. The internal audit ensures compliance with laws and regulations, checks the effective application of general management's instructions, and verifies the reliability of internal processes. The audit manager plans work based on the company's main risks and reports significant findings to general management and relevant corporate bodies.

- Company Personnel; management at each entity applies the company's risk management policies and ensures compliance with these policies. Risk management involves identifying, analysing, and addressing risks at the activity level by department managers and employees. Employees must have the necessary knowledge and information to establish, operate, and monitor risk management and internal control systems, particularly operational managers and internal controllers.

Following our exploration of the actors in risk management and internal control, we turn our attention to the show relationship between internal control and risk management.

1.2.4.Relationship between internal control and operational risk Management

The relationship between internal control and operational risk management is crucial for ensuring the efficiency, profitability, and compliance of a company's operations. According to (Youssef, N°5, Juillet - Décembre 2011), operational risk management and internal control systems contribute in a complementary manner to the control of the company's activities in the following ways:

- The risk management system aims to identify and analyse the company's main risks. Operational risks, exceeding the acceptable limits set by the company, are addressed and, where applicable, are subjected to action plans. The operational risk management may provide for the implementation of internal control, a transfer of

financial consequences or an adaptation of the company. The controls to be put in place fall under the internal control system. Thus, the operational risk management contributes to the treatment of operational risks to which the companies are exposed with the use of the internal controls hence the relationship.

- The internal control system relies on the risk management system to identify the main risks to be controlled. Operational risk management must integrate permanent controls, relating to the internal control system, intended to secure its proper functioning and achieve the objectives set by the company. Generally, we can consider internal control and operational risk management are related.

A strong internal control system complements operational risk management by providing the structure and mechanisms to identify, assess, and reduce operational risks effectively.

In conclusion, this chapter of literature review consists of theoretical aspects which surround the concepts of internal control, operational risk management and the purchasing cycle. It has enabled us to understand that the integration of internal control systems and operational risk management processes which significantly contributes to reducing risks within a company's purchasing cycle. Through the identification, analysis, and evaluation of potential risks, with the implementation of effective internal controls. Overall, this chapter has equipped us with the knowledge to understand the theoretical part of internal control and operational risk management, laying a solid foundation for the next chapters of our dissertation.

CHAPTER TWO: METHODOLOGY AND PRESENTATION OF THE COMPANY A.P.M.CUNITÉ AGGLO BÉTON

This chapter introduces our research methodology and presents a detailed case study of A.P.M.C. In the methodology section, we establish the theoretical framework, outline the research design including study population and sample size determination, describe the sampling procedure, detail data sources, collection methods, and measurement of variables, ensuring the reliability and validity of our research instrument. Transitioning to the case study, we show the presentation of the company of A.P.M.C Unité Agglo Béton, starting with its historical background, followed by a comprehensive overview of its products, organizational structure, service arrangement and the relationship between services.

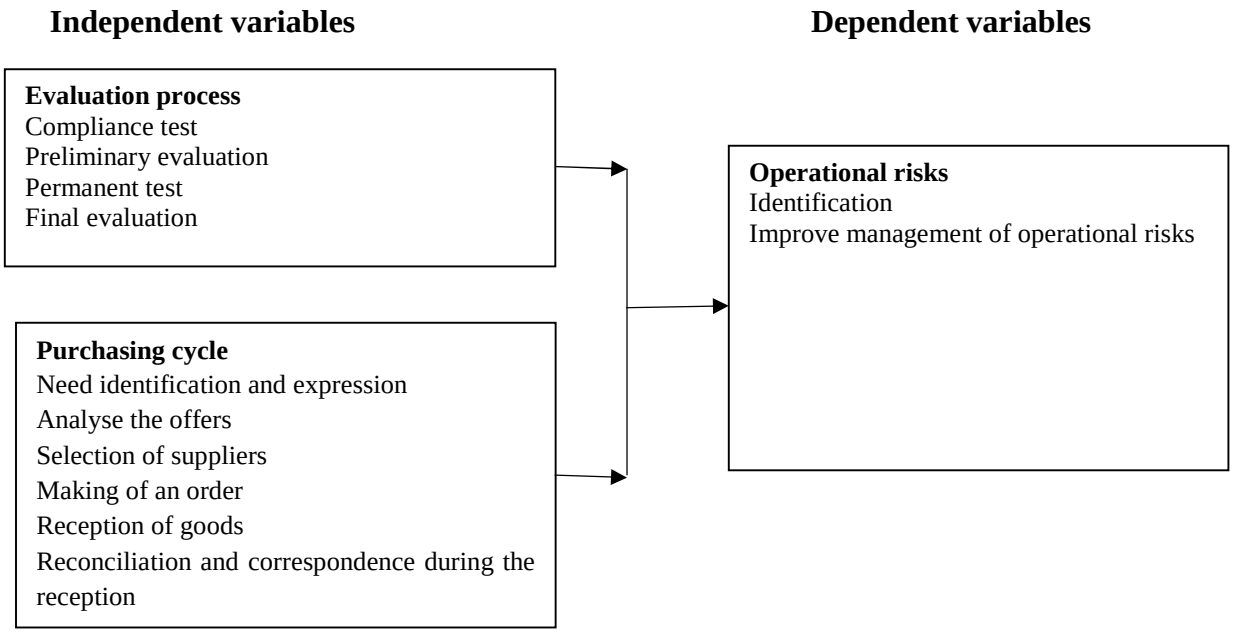
2.1.Methodology

In this section, we explain how we're approaching our research. First, we describe the conceptual framework, which is like a map that shows the main ideas and how they connect. This framework helps us understand what we're studying and why it matters. Next, we go over our methodological components of research, which are the detailed plan for how we're going to gather information, who we'll talk to or study, and how we'll analyse what we find. We also make sure our methods are reliable, valid, and ethical. Overall, this section shows how our research is carefully planned and organized**.**

2.1.1.Conceptual Frame work

The conceptual framework serves as a guide for our dissertation, guiding our exploration of internal control, management of operational risk in the purchasing cycle. It helps to orient and provide a theoretical and practical foundation for our research, and outlines the specific variables in our research. The independent variables are evaluation process, purchasing cycle while the dependent variable is the operational risks.

Figure 5: Conceptual frame work



Source: Realised by us from the internal documents of the company

The conceptual framework in figure 6 above shows that the evaluation of internal control system through compliance test, preliminary evaluation, permanent testand final evaluation in the purchasing procedures enables the identification and improve management of operational risks.

2.1.2.Research design

The research design is the overall plan or strategy that we are going to use to answer our research question or hypothesis. It outlines the methods and procedures that we are going to follow to collect and analyse data in order to address our research problem (Nick, 2021). The study adopted a cross-sectional design because of the need to collect and analyse data over a short time period. Both quantitative and qualitative approaches were used for the study. Qualitative research involved the collection and analysis of non-numerical data.The use of qualitative data collection methods like interviews, observations and document analysis provided a comprehensive understanding of internal controls and operational risks within the purchasing cycle. Quantitative methods involved the collection and analysis of numerical data to answer research questions (Nick, 2021). Quantitative methods used to collect data were: Survey questions, statistical analysis and data from financial reports. The use of mixed method gives more credibility to the study.

2.1.3.Study population and sample size

In this sub section we are going to look at the study population, sample size and sampling procedures we used during our study.

a.Study population; our targeted population included the staff, services and departments of the company A.P.M.C Unité Agglo Béton where we collected data

from to draw conclusions about the how evaluation of internal system help us to identify operational risks.

Table 1: Study population

Study population	
Category	**Population**
Logistic service	8
operating service	5
Accounting and finance service	3
Direction	5
The control and auditing department	2
Director General Department	2
Total	**25**

Source: Realised by ourselves from the internal documents of the company.

The services involved were four (4) and are; logistic service, operating service, accounting and finance service and the Direction of the unit of the company A.P.M.C. The departments involved were two (2) and are; the control and auditing department and the regional direction of the company APMC. The targeted staff included were twenty-five (25) and some are; the director general, the director of the unit, the controller, the internal auditor, the secretary of the unit, the purchasing manager, the store manager, the inventory manager and management controller of the unit, the accountants.

b.Sample size; from the targeted population we have shown for our study we used a sample for data collection, as it seems feasible and appropriate to include some relevant staff, services, and departments.

Table 2:Sample size

Sample Size		
Category	**Population**	**Sample**
Logistic service	8	4
operating service	5	3
Accounting and finance service	3	2
Direction	5	2
The control and auditing department	2	2
Director General Department	2	1
Total	**25**	**14**

Source: Realised by ourselves from the internal documents of the company

The sample size was equal to fourteen (14) staffs from the size of the entire population. The selected sample was used to provide data that can be analysed to draw conclusions and make recommendations regarding the evaluation of internal control system.

c.Sampling procedure; the selecting criteria we used where participants were selected based on their role and level of involvement in the procurement process and each service which was involved in procurement was considered as a stratum. The study adopted simple random sampling where it involved randomly selecting a sample from a larger population and contained a finite number where each sample was distinguishable in a way that each member of the population had an equal chance of being chosen without any bias or preference(Som, 1995),(Cochran, 1953). Within each department or unit, we randomly selected individuals such as requesters, store managers, purchasing managers, and accounting personnel.

On the other hand, stratified sampling was used to divide the population into distinct subgroups, or strata in order to ensure that important subgroups within the population were adequately represented in the sample(Cochran, 1953). It allowed a more targeted approach to sampling, especially when certain sub-groups had specific characteristics that needed to be accounted for in the sampling process(Som, 1995). We divided the population into strata based on the services involved in procurement like logistic service, operating service, accounting and finance service plus the direction. We randomly selected participants from each stratum proportional to the size of the service.

2.1.4.Data sources, data collection and analysis

In this sub section we are going to look at the data sources, data collection and analysis we used in our research.

a. Data sources; in our research data was primarily collected from individuals directly involved in the purchasing process within the A.P.M.C Unité Agglo Bétoncompany such as purchasing manager, stock manager, accountant and director of the unit. it was secondarily collected from internal documents related to purchasing process such as manual procedure, organization chart and also collected from financial record.

b. Data collection and analysis; we used qualitative data collection which involved gathering non-numerical information which helped us to understand concepts, behaviours, and processes related to internal control and operational risks in the purchasing cycle here are some of the qualitative data collection methods we used:

- Interviews; we conducted interviews with the individuals directly related to the purchasing procedure, such as purchasing managers, accountants, and internal controllers.
- Observations; we observed practices within the purchasing cycle in order to identify patterns, behaviours, and deviations from standard procedures.
- Document analysis; we reviewed documents like purchasing policies, and manual procedures.

We used quantitative data collection which involved gathering numerical data which helped us to analyse measurable aspects of internal control and operational risks. These methods include;

- Surveys; we used structured questionnaires with closed-ended questions to collect quantifiable data from a large group of respondents, which was statistically analysed.(Norman M. Bradburn, 2004)asserts that the questionnaire must directly relates to the essential research question of the dissertation and we made sure that our questionnaire relate to our theme of evaluating internal control, managing operational risks in the purchasing cycle.
- Data analytics; we analysed transaction data, financial records, and other quantitative metrics to identify patterns, trends, or anomalies in the purchasing cycle.

2.1.5.Measurement, reliability and validity of the research instrument

a. Measurement; in our questionnaire we used binary measures where respondents can only choose between two options: "Yes" or "No," to answer the questions. We distributed 10 copies of the questionnaire in the appendix to the different workers involved in the procurement process and after we evaluated their multiple responses with the SPSS software to get the final response we used in the questionnaire in the annexe.

b. Reliability and validity of the research Instrument

Before actual data collection, expert opinion on the appropriateness of the research instruments was obtained. Inter-rater reliability which involved multiple respondants to the questionnaire to ensure consistency in their assessments. Content validity was used to ensure that the content of the research instrument adequately covered all relevant aspects of internal control in the purchasing cycle and operational risk management. Construct validity was used to assess whether the instrument accurately represented the theoretical constructs it was intended to measure. For instance, in our survey we aimed to evaluate the internal control system, construct validity meant that the questions are genuinely capturing this concept, not something else.

2.1.6.Study limitations

The first limitation resulted from difficulty in accessing respondents who were occupied with work. This affected the response rate in data collection activity.

The second limitation related to fear on the side of respondents regarding disclosure of information. However, the researcher assured respondents that the study findings were used solely for academic purpose and that their responses were to be kept confidential. Respondents were assured that their names were not required on the research instruments which provided them with safety in giving their perceptions

2.2.Case Study: Presentation of the company A.P.M.C (Unité Agglo Béton)

In this section, we provide an overview of A.P.M.C, focusing on its unit called Unité Agglo Béton division. We begin with a brief history of the company, showing its origins and key milestones. This is followed by a detailed presentation of the products offered by A.P.M.C, highlighting their unique features. Next, we examine the general organization of the company, looking at its structural framework and the organization of its various departments and services. Additionally, we analyse the relationships and interactions between different services within A.P.M.C, offering insight into the collaborative dynamics that drive the company's operations.

2.2.1.Presentation of the company A.P.M.C

This sub section provides a detailed presentation of the enterprise A.P.M.C, a key player in the Algerian construction materials sector. We begin by looking at the company history then the purpose and mission of the company plus the product presentation. Following this introduction is a detailed account of the company's history, outlining its founding, significant achievements, and growth over the years.

a. Company history

The A.P.M.C. regional center of Bejaia, formerly known as Société de Matériaux de construction de Bejaia (SOMACOB), has a rich history which was started on April 28, 1979. It was formed as a public economic enterprise, specifically a joint stock company, with full ownership by the Local Industries Group (Divindus).

The Groupe des Industries Locales (GIL) or (The Local Industries Group) in English, called Divindus SPA with capital of 14,947,000,000 Algerian dinars, resulted from the transformation from Société de Gestion des Participations de l'État (SGP) or (State Holdings Management Company) in English and the absorption of Industrie de Production et de Réparation de Structures (IPRS) or (Structural Production and Repair Industry) in English and diversification of Services in the East/South-East and West as well as the attachment of the Entreprise Publique Économique of wood manufacture or (Public Economic Enterprise) in English, and this in application of the resolution of the Distribution, Importation et Production de Services Techniques (DIPREST) or (Distribution, Import and Production of Technical Services) in English. This center is important because it's a joint stock company, which means it's owned by different people. When it started, it had a lot of money invested in it. It was formed by combining different companies.

It operates similarly to a multi-branch group, boasting a portfolio of **89** EPE and generating an impressive annual turnover of 30 billion dinars. Its workforce, numbering approximately 14,115 employees as of April 30, 2016, is engaged in diverse sectors such as industry, services, distribution, import, and more which are distributed as follows:

- Industries 42 Entreprise Publique Économique,
- Services: 19 EPE,

- Distributions: 18 EPE,
- South: 02 EPE and 08 projects.

This group is composed of 12 subsidiaries. A.P.M.C. is one of the subsidiaries of the DIVINDUS group.

A.P.M.C. Bejaia does not just stay in one place. It spreads out to nine different areas in Algeria. It has lots of workers, about 1832 of them, who help make things run smoothly.

Across Algeria, the A.P.M.C. operates five regional centres, each playing a crucial role in the company's operations and outreach and they are: Regional center of Algiers, Regional centreof Tlemcen, Batna regional center and Oum El-Bouaghi regional center. The Regional center of Bejaia stands as a testament to the company's commitment to regional development and economic growth.

Over the years, the A.P.M.C. regional center of Bejaia has evolved into a pivotal player in the construction materials industry, contributing significantly to Algeria's economic landscape. Its journey embodies resilience, innovation, and a steadfast dedication to excellence, paving the way for continued growth and prosperity in the region and beyond.

The history of A.P.M.C, with its transformation from public economic enterprise SOMACOB to a joint stock company under Divindus, showcases a strategic reorganization within the public sector. This transition signifies a shift towards improved governance, internal control mechanisms, and risk management practices. The company's expansion and diversification into various sectors highlight the importance of strong internal controls in managing operational risks associated with procurement process. The company's growth, workforce distribution, and regional presence underscore the need for a comprehensive evaluation of internal control system to safeguard assets, prevent fraud, and optimize procurement practices in the purchasing cycle. By analysing A.P.M. C’s journey, we expect to find best practices for internal control evaluation in the purchasing cycle and operational risk management within the construction materials company. Moving forward from the company history, our focus shifts to the presentation of A.P.M. C’s products within the unité agglo béton division

b. Product presentation

The A.P.M.C. is the Algerian Company of Production of Construction Materials. It is a subsidiary of the DIVINDUS group, located in Algiers. It specializes in the production sector of quality products numbered from **i-vi** such as:

i. The aggregates; the construction aggregate, or simply aggregate, refers to a range of coarse- to medium-grained particulate materials like sand, gravel, crushed stone, slag, and recycled concrete used in construction. These aggregates are utilized as building materials to improve the strength and durability of various construction materials when mixed with water, concrete, and other substances. Enterprise A.P.M.C Unité Agglo Béton offers gravel in sizes ranging from 3/15 to 8/15 and other dimensions to cater to construction needs. The procurement process of the aggregates involves various internal controls like supplier evaluation based on reputation and reliability documentation standards for purchase requests with approvals from relevant authorities, Verification of stock availability before procurement initiation and reconciliation for received aggregates through inspections and testing for continuous

improvement to ensure quality, quantity, and cost-effectiveness. Managing operational risks in this involves ensuring the reliability of suppliers, quality and price control mechanisms for incoming materials, and compliance to regulatory standards. Researching the procurement and quality control processes of aggregates contributes to understanding internal control mechanisms, management of operational risks in the purchasing cycle.

Figure 6: The aggregates

Source: Internal document of the enterprise A.P.M.C

ii. Red hollow bricks products; Red hollow bricks, with their perforated design filled with insulation, are crucial in commercial construction. They offer structural support and thermal insulation, reducing energy usage in buildings. Used in load-bearing walls as well as partition, retaining, and boundary walls, they contribute to strength, stability, and energy efficiency in modern construction. The production of red hollow bricks involves a complex purchasing cycle, from sourcing raw materials to quality control and inventory management. Internal controls include vendor selection for raw materials like clay and insulating components, authorization processes for purchasing, and rigorous quality checks to meet industry standards. By ensuring these internal controls, A.P.M.C. can manage risks such as supply chain disruptions, material inconsistencies, and fraud.

Figure 7: Red hollow bricks

Source: Internal document of the enterprise A.P.M.C

iii. Construction plaster;plaster is a construction material that coats and protects the inside walls and ceilings. It is also used to decorate the walls as it can be formed into crown cornices, ceiling roses, corbels and other architectural

mouldings. Plaster comes in a powdered form. You must add water to it before application. The production of plaster requires careful control over the purchasing cycle, as it is sourced in powdered form and must be mixed with water before application. Internal control includes the selection of suppliers for raw materials, authorization processes for purchasing, and the monitoring of inventory to ensure a steady supply of plaster powder. Given that plaster is sensitive to moisture and other contaminants, the study explores controls to prevent damage during storage and transportation, as well as quality checks to confirm the material's purity and consistency.

Figure 8: The construction plaster

Source: Internal document of the enterprise A.P.M.C

iv. Concrete agglomerates; Concrete blocks and precast concrete pipes, like Hume pipes, are vital in construction. Concrete blocks are used for walls and basements with tailored compositions and strengths. Pipes serve drainage and sewerage systems, adhering to rigorous standards. Both ensure structural integrity and longevity in various projects. Internal control mechanisms such as vendor selection, purchase authorization, quality assurance, and inventory management are used in the purchase of raw materials which are essential to reduce risks like supply chain disruptions, inadequate material quality, and unauthorized transactions. By implementing strong controls, risks associated with sourcing raw materials for concrete blocks and precast concrete pipes can be minimized.

Figure 9: Concrete agglomerates

Source: Internal document of the enterprise A.P.M.C

v. Sealants and road emulsions; sealants, made of polymers, protect structures by sealing joints to prevent moisture intrusion, combating corrosion and structural damage. Road emulsions in road construction, improving flexibility, Internal

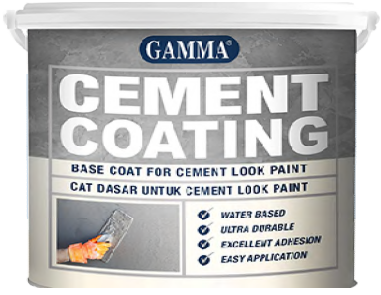
controls in the purchasing cycle related to materials used in the production of sealants and road emulsions are vendor selection, purchase authorization, inventory tracking, and quality assurance. Proper internal controls in the purchasing cycle help reduce operational risks such as supply chain disruptions, substandard materials, and fraud, ensuring that sealants and road emulsions meet the necessary specifications for safety and durability.

Figure 10: Sealants and road emulsions

Source: Internal document of the enterprise A.P.M.C

vi. Coatings and adhesive cements; coatings and adhesive cements are indispensable in construction, offering multifaceted benefits for structures. Coatings, like paints and sealants, shield against environmental hazards such as moisture and radiation. Adhesive cements are vital for bonding materials, facilitating construction assembly and improving durability. Whether for waterproofing, insulation, or surface adhesion, these products are instrumental in bolstering the longevity and functionality of buildings and infrastructure. internal controls in the purchasing cycle and operational risks associated with sourcing materials for the production of coatings and adhesive cements help to ensure the quality, consistency, and safety of these materials, focusing on vendor selection, authorization processes, inventory management, and quality control, which help to reduce operational risks such as supply chain disruptions, substandard materials, and unauthorized purchases, ensuring that the coatings and adhesive cements meet industry standards and contribute to the structural integrity of construction projects.

Figure 11: Coatings and adhesive cement



Source: Internal document of the enterprise A.P.M.C

Other activities done in this company are General wood carpentry, Industrial insulation and the construction of buildings and public works.

There are controls implemented when purchasing these materials for fabricating construction materials and products. The internal controls implemented for these construction materials are; rigorous supplier management practices, quality assurance standards, inventory management, training and certification protocols, and documentation procedures, have shown us that the company uses some internal controls when purchasing the materials for these products. These controls establish a framework for consistent quality expectations, supplier reliability, inventory management efficiency, personnel competency, and documentation integrity across all materials.

2.2.2.The general organization of the company

The general organization of the company includes the purpose of the company, presents the unit of the company A.P.M.C which is unité Agglo béton where our main case study focus is and nature of the activity of this unit.

a.Purpose of the company A.P.M.C. regional center of Bejaia

The purpose of the A.P.M.C. regional center of Bejaia is to efficiently produce and market a wide range of construction materials. By operating six specialized production units within the Bejaia region which are listed as follows:

- El-Kseur Agglo-Béton Unit specializes in the production and marketing of agglomerated products;
- The Akbou quarry produces and markets aggregates; The two (02) brickworks: Seddouk and Remila produce and market red products (bricks);
- The Boudjellil Plastering unit specializes in construction plaster;
- The Tazmalt General Carpentry unit.

The company’s purpose is to cater for the diverse needs of the construction industry. From agglomerated products to aggregates, bricks, construction plaster, and general carpentry, the company's goal is to provide high-quality materials essential for various construction projects. By centralizing its operations in the industrial zone of Ihaddaden and strategically locating its production units throughout the wilaya of Bejaia, the company ensures accessibility and timely delivery of its products to customers. Overall, the company's objective revolves around meeting the demands of the construction sector, contributing to infrastructure development, and sustaining a profitable business model within the region.

The company's purpose of efficiently producing and marketing a wide range of construction materials helped us to know that the company specializes in the construction materials sector and the type of procurement procedure it concentrates on and we were able to know that it requires a strong purchasing cycle, involving procurement of raw materials, machinery, and other resources due its various services. This contributed to a more comprehensive understanding of the challenges and best practices in evaluating internal control, managing operational risks in the purchasing cycle.

b.Presentation of the Agglo-Béton El-Kseur unit

The Agglo-Béton El-Kseur unit started in 1981 with a deal with a supplier of the company called J-POUSSARD and its primary purpose is to produce materials and assist in construction projects. It's like a factory where different materials needed for construction, like concrete blocks or cement, are made. The unit plays a crucial role in building various structures, such as buildings, roads, and bridges, by providing essential construction materials. The agreement signed with J-POUSSARD led to the construction of four factories as part of the Agglo-Béton El-Kseur unit. These factories were carefully planned and built over a period of two and a half years and a half, other term of which a trial of two (02) months of successful production.

The unit is located at the exit of El-Kseur on national road no. 26 towards Sidi Aich. Its location in the western industrial zone gives it direct access to the national road linking various wilayas (Bejaia, Bouira, Tizi-Ouzou). It is also very close to the El-Kseur station which is less than a kilometer away and 26 kilometers from the port of Bejaia which gives it a great advantage in terms of supplies of raw materials.
The unit employs a staff of 57 agents (as of 12/31/2022) including 6 women and 51 men who are categorized into distinct socio-professional roles, ranging from managerial to executional where 09 belong to Frame 12 to Mastery and 36 to Execution. Also this unit has a number of fifty-two (52) agents on permanent contracts and five (05) workers on fixed-term contracts.

This presentation helped us understand that the business environment of the unit involves recognizing its location near the El-Kseur station and the port of Bejaia, highlighting logistical advantages that impact procurement processes and operational risk management strategies. Documenting the historical development and growth of the unit, including construction, planning, and production trials, provided context for how internal controls have evolved in the purchasing cycle. Highlighting contractual arrangements of the workforce offers insights into employment practices and potential weaknesses in procurement. Strategic advantages such as like proximity to suppliers and transportation networks, shows operational strengths while weaknesses, such as supplier dependence can lead to an operational risk in the company.

c.Nature of the activity of the Agglo-Béton El-Kseur unit

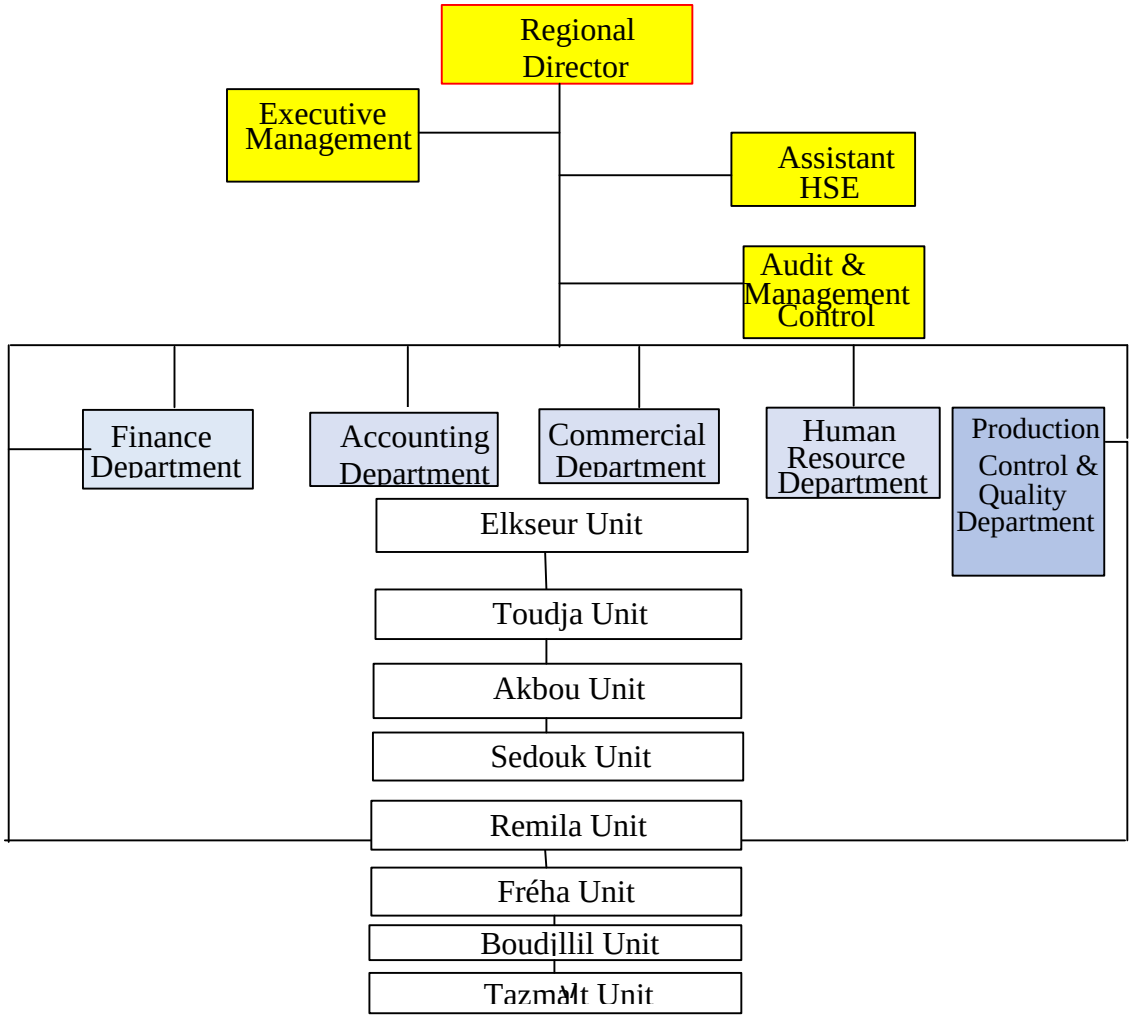
The primary activity of the Agglo-Béton El-Kseur unit revolves around the production of agglomerated concrete products, which has a diverse range including concrete blocks, slabs, curbs, nozzles, paving stones, and concrete pipes. This core activity underscores the company's expertise in the manufacturing process of these essential construction materials.
However, beyond its primary activity, the unit also engages in a secondary activity but significant aspect of business: the marketing of a comprehensive assortment of construction materials. This indicates a broader involvement in the construction industry beyond just manufacturing, showcasing the unit's commitment to providing comprehensive solutions to construction projects.

In essence, the nature of the company's activity ismulti-layered, including both the production of agglomerated concrete products and the marketing of a wide range of construction materials, thereby positioning itself as a vital player in the construction sector.
As a manufacturer of agglomerated concrete products, we were able to know that El-Kseur unit has a significant purchasing function to acquire raw materials, equipment, and other supplies necessary for its production activities in order to evaluate the internal controls in the purchasing cycle and be able to manage the operation risks in the purchasing cycle.
After discussing the general organization of the company, the next part is the structure of the enterprise.

d. Structure of enterprise

The structure of the enterprise consists of separate organizational subsections, each with its own hierarchical framework aimed at efficient management and operation. At the A.P.M.C. regional center of Bejaia, the hierarchy is led by the regional director, overseeing operations and setting the company's goals. Below the director are key roles such as the executive manager and assistant supervisor of health security and environment, followed by department and units responsible for specific functions within the organization. Similarly, at the El-Kseur Unité Agglo Béton, the director spearheads the unit's objectives, supported by roles such as the supervisor of health security and environment and various service heads. This hierarchical structure ensures a clear flow of information and accountability, with each level entrusted to implement and manage specific dimensions of the enterprise's operations.

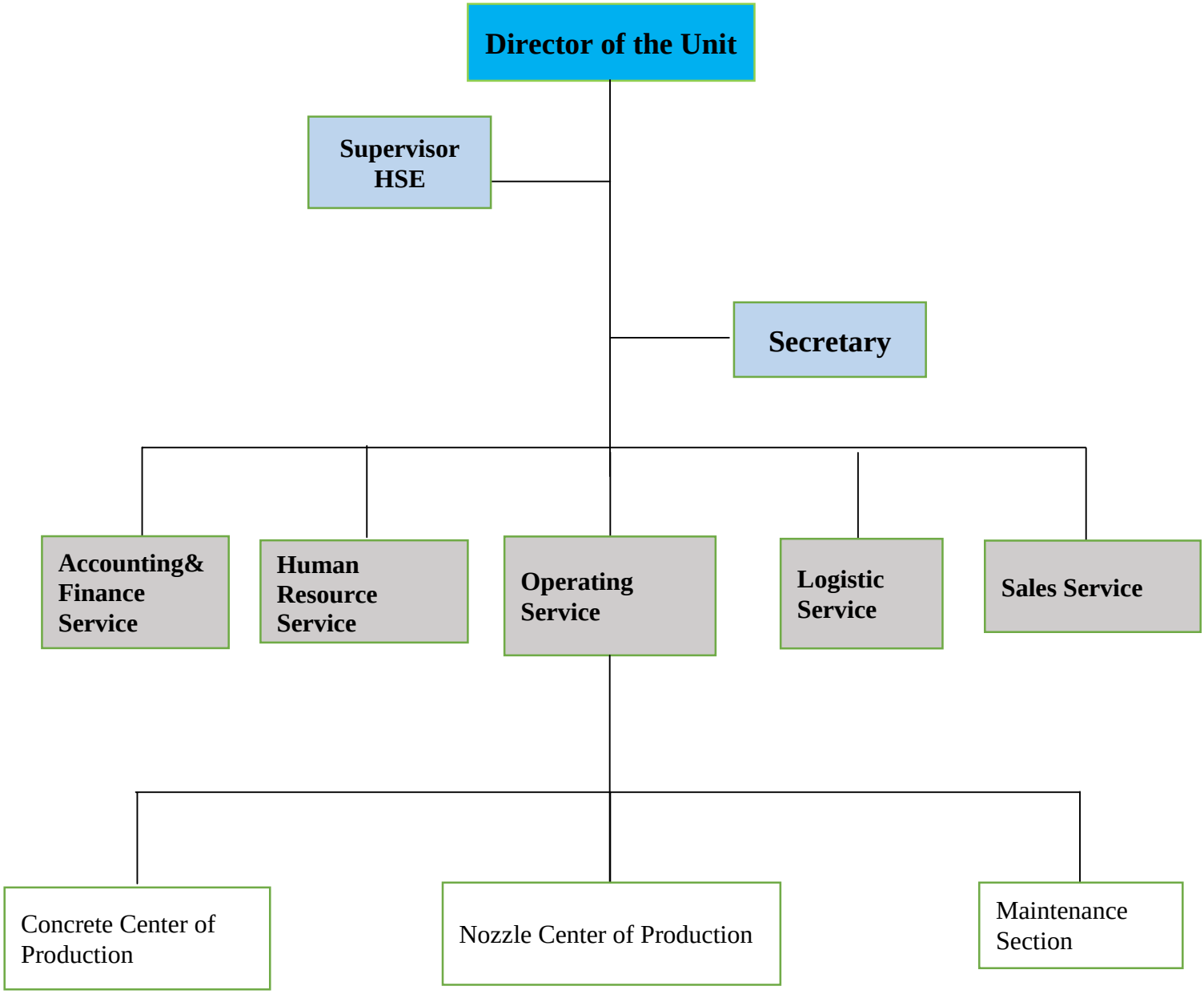
Figure 12: Organization chart of the A.P.M.C regional center of Bejaia



Source: Internal document of the enterprise A.P.M.C

This A.P.M.C regional center of Bejaia is headed by the regional director then followed by the executive manager then by assistant supervisor of the health security and environment then followed by the audit and management control department then followed by the different departments and finally followed by the different units of the company in this organization. In this organization chart, information flows from the top to the bottom so it's a hierarchical organization chart. The regional director sets the overall direction and goals for the company. Each subsequent level is responsible for implementing and managing specific aspects of the unit's operations.

Figure 13: Organizational chart of the El-Kseur Unité Agglo Béton



Source: Internal document of the enterprise A.P.M.C

This unit is headed by the director then followed by the supervisor of the health security and environment then followed by his secretary then followed by the different services and finally followed by the different centers of the company. In this organization chart, information flows from the top to the bottom so it's a hierarchical organization chart. The Director sets the overall direction and goals for the unit. Each subsequent level is responsible for implementing and managing specific aspects of the unit's operations.

There is a degree of information asymmetry between different levels of the hierarchy and between different services within the unit. The Director sits at the top, overseeing all aspects of the unit's operations, and likely has access to a broad range of information.

However, as you move down the hierarchy, information may become more specialized and compartmentalized within each department or service. For example, the finance & accounting service deals primarily with financial data and reports, while the Human Resources service focuses on personnel management. Each service has access to information relevant to its area of responsibility but may not have access to the same breadth of information as the Director. The General Resources section of the Human Resource Service may have more detailed information about asset management and office maintenance compared to the Personnel Management section.

By analysing the organization chart, we were able to identify key control points within the purchasing function, such as segregation of duties that the purchase service was responsible for procurement activities, the finance and accounting service for managing financial aspects. Understanding information flow between services helped us identify potential control weaknesses for example the operations service has limited access to information about inventory levels managed by the logistic, this is likely to lead to problems during the budgeting for the purchases, affecting operational efficiency and financial performance. While recognizing asymmetries in information distribution allows the company to strengthen internal controls. Operational risks, like supplier non-performance or inventory issues, can be reduced by assessing how services collaborate, like logistics ensuring timely delivery and operations managing production. We recommend the company to improve internal controls, such as improving communication channels and implementing technology solutions, to align with the organization's structure and information flow, ultimately strengthening operational risk management practices and improving operational performance.
After knowing and understanding the structure of both the company A.P.M.C and its unit of unité agglo béton, we can now discuss and explain the organization of the different services of its unit.

e. Organization of different Services.

The following are the different services explained in detail:

i. The direction;contribute to the achievement of the performances outlined and the objectives set in the short or long term (depending on its strategy) by the regional center by ensuring the optimum functioning of the services of its production unit as well as compliance with legal and regulatory provisions relating to management of the unit as a whole.

ii. The Secretary; carries out all secretarial work (word processing, recording and distribution of mail, reception of telephone calls, etc.) within its structure and assist the manager in maintaining their daily and work files.

iii. The Health, Safety and Environment (H.S.E.) supervisor;advise and assist the company's management for the assessment of risks and the definition of the safety, hygiene and respect for the environment policy and the implementation of regulatory provisions regarding hygiene, safety, working conditions and occupational medicine.

iv. Finance and accounting service;ensures financial and accounting management, the unit's cash flow, the production of financial and accounting statements in accordance with the provisions of the S.C.F. (Accounting and Financial System) as well as participating in the development of any economic and financial analysis or study capable of serving as decision-making support tools. We observed that this service plays a crucial role in internal control by ensuring that financial transactions related to purchasing are accurately recorded and monitored. It also helps to identify any irregularities in purchasing activities. It can identify potential operational risks such as overspending, fraudulent activities, or inefficiencies in procurement processes hence being able to manage its operational risks.

v. Human resources service; implementation of human resource management and training of unit staff in accordance with the directives of the HR department of the division as well as the implementation of legislative and regulatory texts governing labour relations and ensuring the availability of logistical resources necessary for the operation of the unit. We observed that this service indirectly influences internal control in the purchasing cycle because it ensures that staff involved in purchasing activities are appropriately trained and aware of their responsibilities and also plays a role in maintaining a positive organizational culture, which can impact employee behaviour related to procurement. A culture of integrity and compliance reduces the likelihood of internal fraud or misconduct in purchasing processes hence management of operational risks

vi. Operations service; ensure the definition and execution of the production load plan, curative and preventive maintenance programs for equipment, as well as the determination of the corresponding costs, define, implement the department's annual load and activity plans and, provide it with means and procedures capable of ensuring optimal operation. This service is broken down into:
Agglo production center: manufacturing of concrete blocks, slabs, curbs, paving stones and shunts;
Nozzle production center: manufacturing of nozzles (small and large);
Maintenance section which takes care of the upkeep and maintenance of production equipment.
We observed that this service implements internal controls such as ensuring efficient production processes and equipment maintenance which reduces the possibility of disruptions that could impact the purchasing cycle. Operational risks such as production delays, equipment breakdowns, or quality issues can directly affect procurement activities. Through effective planning and maintenance, this service contributes to a smoother purchasing cycle by minimizing these risks hence management of operational risks.

vii. Logistic or purchase service; ensure logistical support for all of the unit's activities in terms of raw materials, tools, transport, spare parts and equipment for

their operation and the fulfilment of their contractual commitments. It is also the service responsible for all purchases in the company. We observed that this service implements internal controls to verify the authenticity of vendors, ensure competitive pricing, and validate the quality of goods received. These control measures here help to reduce operational risks such as purchasing from unauthorized vendors, overpayment, or receiving substandard goods hence management of operational risks

viii. Sales service; ensure business prospecting for the unit and promote the image of the company and its activities as well as the handling and preparation of technical submissions in compliance with standards, regulations and in accordance with the laws in force by seeking permanently optimize costs.

ix. The Human Resource Service; in the unit, this service reports directly to the unit management. Its main mission is to ensure personnel management in accordance with A.P.M.C. procedures. and the regulations in force thus ensuring the availability of the means necessary for the operation of the unit. It is broken down into two (02) sections: personnel management and general resources.

Personnel management section

Its main missions and activities are:

- Guarantee the implementation of the human resources management policies decided by the A.P.M.C.
- Ensure compliance with internal regulations, the collective agreement, social, tax and legal legislation and monitoring of the company's social and Para fiscal benefits;
- Organize and manage administrative personnel documents, keep the personnel file up to date and establish statistics relating to human resources;
- Ensure management of staff payroll, supervise its establishment and carry out monthly checks;
- Supervise staff recruitment and integration operations (sorting and selection of CVs, candidate interviews, reception, pre-selection, etc.);
- Identify, in consultation with the managers concerned, advancement opportunities for staff in reference to the company's staffing needs and existing skills;
- Participate in the development of the unit's training plan by identifying needs and personnel to be trained and implementing its implementation;
- Maintain relationships with external partners.
- Ensure periodic reporting (month, quarter, etc.) of human resources management, comment on the results and propose corrective actions.
- Ensure a quality social climate at unit level.

General resources section

Its main missions and activities are:

- Ensure that the various departments of the unit are provided with personal protective equipment, office supplies, various amenities and small tools necessary for their proper functioning;
- Ensure the management and safeguarding of the unit's movable and real estate assets;
- Ensure the cleaning and cleanliness of the premises;
- Ensure the management of the fleet of light vehicles and ensure their maintenance and cleanliness;
- Manage insurance contracts for the unit's property and equipment;
- Carry out the maintenance of office and IT materials and equipment;
- Provide all information, statistics and periodic reports from the general resources structure.

By analyzing the roles of these services within the organization, we were able to identify key internal control points and operational risk management strategies relevant to the purchasing cycle use by the enterprise A.P.M.C. From this organization of different services, we can then shift our focus to the relationship between these services in our next part.

f. Relationships between different services

The unit operates through a network of interconnected services, each contributing to the unit's goals while ensuring compliance, safety, and efficiency. The direction provides the goals that guide all services. Human resources, finance, operations, logistics, sales, and general resources collaborate closely, facilitating effective communication and coordination. This relationship ensures that internal controls are integrated into the purchasing cycle and operational risks are managed effectively, supporting the overall success and sustainability of the unit as explained below:

- Direction; the direction sets the overall goals and objectives for the regional center. It provides guidance and direction to all services to ensure alignment with the center's strategies and objectives. All the services have a direct relationship to the direction of the enterprise.

- Human resource service;this service is responsible for managing personnel, recruitment, training, and ensuring compliance with labour regulations. It collaborates closely with other services to ensure adequate staffing levels and skillsets to meet operational needs.

- Health, safety, and environment (H.S.E.) Supervisor; collaborates with all services to assess risks, define safety policies, and ensure compliance with environmental regulations. Works closely with operations, finance services to integrate safety measures into all aspects of the unit's activities. This relationship ensures that staff

involved in purchasing are aware of safety protocols when handling materials and equipment.

- Finance and accounting service; provides financial management and analysis to support decision-making. Works closely with operations service to budget for production costs with human resource service for payroll management and with sales service to track revenue and expenses. This relationship is crucial for budgeting and cost analysis within the purchasing cycle.

- Operations service is responsible for production planning, maintenance, and execution. Works closely with logistics service for material sourcing, finance service for cost analysis, and human resources service for staffing needs.

- Logistics or purchase service; ensures the timely and efficient supply of materials and equipment for production. Collaborates with operations service for inventory management, finance service for budgeting, and sales service for forecasting. Collaboration between these services ensures that purchasing decisions are aligned with sales forecasts and customer demands. This helps reduce operational risks associated with overstocking or understocking inventory, which can impact production and sales targets.

- Sales service is responsible for business development and customer relations. Collaborates with operations service to understand production capabilities, finance service for pricing strategies, and logistics service for delivery planning.

- Secretary provides administrative support to all services, facilitating communication and coordination between them. The secretary acts as a central point of contact for internal and external communications. It services facilitates communication and coordination between all departments, ensuring that internal controls are effectively communicated and implemented throughout the purchasing cycle.

- General resources section; supports all departments with logistical needs, asset management, and maintenance. Collaborates closely with operations service for equipment maintenance, finance service for budgeting, and human resources for staff welfare. It assists in maintaining documentation related to purchases, which is essential for internal control evaluations.

We were able to see a relationship between these services forming a network that supports the production unit in achieving its goals while ensuring compliance with legal and regulatory requirements, maintaining a safe and healthy work environment, and optimizing operational efficiency. Effective communication and collaboration between these services are essential for the success of the unit. By understanding and analyzing the relationships

between these services, we were able to know how internal controls are integrated into the purchasing cycle and how operational risks are managed throughout the process.

Measuring the relationship between each service and others to evaluate their effectiveness in internal control and operational risk management

We positioned them basing on their level of integration and contribution in the purchasing cycle as explained below numbered from **i-viii:**

i. Finance and Accounting Service:

- Relationship with others; high collaboration with all services for financial management.
- Position in internal control and management of operational risks; high, as it provides financial analysis and manages budgets.
- Position in purchasing cycle integration; high, as it directly manages budgeting for procurement activities.

ii. Operations Service:

- Relationship with others; high collaboration with logistics for material sourcing, finance for cost analysis, and HR for staffing.
- Position in internal control and management of operational risks: high, as it oversees production execution and planning.
- Position in purchasing cycle integration; high, as it directly manages production planning and execution.

iii. Logistics or purchase service:

- Relationship with others; high collaboration with operations for inventory management, finance for budgeting, and sales for forecasting.
- Position in internal control and management of operational risks; high, as it ensures timely supply and efficient logistics.
- Position in purchasing cycle integration; high, as it directly manages procurement activities.

iv. Sales Service:

- Relationship with others: high collaboration with operations for production capabilities, finance for pricing, and logistics for delivery planning.
- Position in internal control and management of operational risks: Moderate, as it focuses more on revenue generation and customer relations.
- Position in purchasing cycle integration: Moderate, as it provides input for forecasting but may not directly manage procurement.

v. Human resource service:

- Relationship with others; high collaboration with operations service for staffing needs, moderate collaboration with finance for payroll management.
- Position in internal control and management of operational risks; moderate, as it ensures adequate staffing levels but may not directly influence purchasing decisions.
- Position in purchasing cycle integration; low, as it's not directly involved in procurement activities.

vi. Health, Safety, and Environment (H.S.E.) Supervisor:

- Relationship with others; high collaboration with all services to ensure compliance and integrate safety measures.
- Position in internal control and management of operational risks; high, as it actively mitigates risks and ensures compliance.
- Position in purchasing cycle integration; moderate, as it collaborates with all services but may not directly influence procurement decisions.

vii. Secretary;

- Relationship with others; moderate collaboration by facilitating communication and coordination.
- Position in internal control and management of operational risks; low, as its role is primarily administrative.
- Position in purchasing cycle integration: Low, as it doesn't directly engage in procurement activities.

ix. General resources section:

- Relationship with others; high collaboration with Operations for equipment maintenance, Finance for budgeting, and HR for staff welfare.
- Position in internal control and management of operational risks; high, as it supports various departments with logistical needs.
- Position in purchasing cycle integration; moderate, as it indirectly supports procurement through logistical support.

Based on these assessments we observed that the finance and accounting service, operations service, and logistics/purchase service have the highest positions in both internal control and integration within the purchasing cycle due to their direct involvement in financial management and procurement activities.

In conclusion of this chapter two, we did not only detail our research methodology but also presented the company A.P.M.C which was our case study company, we used a methodology for evaluating the internal control system in the purchasing cycle of A.P.M.C by combining both qualitative and quantitative approaches, ensuring a comprehensive understanding of the processes involved. Transitioning to the presentation of A.P.M.C, we explained the company's history, product portfolio, organizational structure, and service arrangements, including the relationships between different departments. By understanding the inner workings of A.P.M.C, we were able to assess how internal controls are integrated into the purchasing cycle and how operational risks are managed throughout the process.

CHAPTER THREE: EMPIRICAL FINDINGS AND ANALYSIS (Evaluation of the system of internal control in the purchase cycle of unité agglo béton company)

This chapter has two sections presenting empirical findings and analysis concerning the evaluation of the system of internal control within the purchase cycle of Unité Agglo Béton Company. It begins in section one with the initial steps of evaluating the existing internal control system, including the company's awareness and a detailed description of the procurement procedure. Subsequently, the chapter in section two evaluates the effectiveness of the internal control system through a compliance test, preliminary evaluation, permanent testing and final evaluation which involves analysis of operational risks, and recommendations for improving the management of operational risks. We started with the description step of the evaluation of the internal control system.

3.1. Description: Awareness of the company and description of the procurement procedure

In this section of the description step of evaluating the internal control system, we begun with the awareness of the company or general knowledge about the company which involved understanding of Unité Agglo Béton's socio-economic context, organizational structure, and core activities. We then described the existing procurement or purchasing procedure of the company unité agglo béton.

3.1.1. Awareness of the company

The awareness step being the initial step in the evaluation of the system of internal control procedure, it was necessary for us to take a look at the system already in place, in order to have some knowledge about the company. Acquiring knowledge is not done randomly, it is organized and planned in advance, in order to provide the most appropriate means to acquire the knowledge necessary to carry out the mission.

It was essential for us to use an open questionnaire, which we can call: awareness questionnaire and it summarizes the important questions to which we must know the answer if we want to have a good understanding of the field to be evaluated.

This questionnaire is essential for the following reasons:

- to know the activity and organization of the enterprise;
- verifying the existence of the internal control system for example the manual of the purchasing cycle;
- identify operational risks that could cause a significant impact in the enterprise;
- we will also become familiar with what exists so that we can describe the procedures relating to the purchasing cycle of the company.

And so, to complete the awareness questionnaire, we:

- Conducted interviews with people who have a role in the progress of operations in the purchasing cycle, i.e. those from the finance and accounting service, reception service, and especially the logistic service which is mainly concerned with the purchases.
- Carried out a documentary analysis which consisted of finding out about the organization of the purchasing cycle.

a. Awareness questionnaire

To answer this questionnaire, we used all the appropriate tools; interviews, observations, documents, etc. The awareness questionnaire carried out within unité agglo béton included 2 main parts; **part i** and **part ii,** ranging from general to specific and is presented as follows:

i. Awareness of the socio-economic context of an enterprise.

The following questions numbered **1-6**areabout socio-economic organization context of the company focused on its activity, sector, financial performance, competitive landscape, and workforce composition.

1. What is the activity?

Answer: Manufacture of agglomerated concrete products (concrete blocks, nozzles, paving stones and pipes).

2. What is the sector of activity?

Answer: production and marketing of construction materials

3. What is the company's turnover?

Answer: 14,937,398.75 of 2023 DZD

4. What is the change in turnover between 2023 and 2022?

Answer:

2022; 25,316,365.54 DZD

2023; 14,937,398.75 DZD

5. Who are the company's main competitors?

Answer: Lambder Solutions Algeria, Sultan ceramica.

6. What is the number of jobs created?

Answer: The unit employs a staff of 57 agents (as of 12/31/2022) including 6 women and 51 men. Also this unit has a number of fifty-two (52) agents on permanent contracts and five (05) workers on fixed-term contracts.

ii. Knowledge of the organizational context and the functioning of the unité Agglo Béton.

The following questions numbered **1-11** area bout knowledge of the organizational context and the functioning of the company focused on its suppliers, payment, internal control system, manual and procurement procedure:

1. What is the approximate number of suppliers?
Answer: 100 suppliers divided into public or private suppliers and service suppliers.

2. What is the number of raw material suppliers?
Answer: 3 suppliers

3. How many invoices have been received?
Answer: 480 invoices

4. What are the payment methods?
Answer: Cash, checks and transfers.

5. Who is responsible for monitoring supplier accounts?
Answer: The accountant

6. What is the number of credits?
Answer: 100 credits

7. What is the Supplier's payment deadline?
Answer: 3 months

8. When are suppliers paid?
Answer: When the money is available.

9. Is there a procurement procedure?
Answer: Yes, there is a procurement procedure.

10. Is there a manual procedure?
Answer: Yes, there is a manual procedure.

11. Is there an internal control system?
Answer: Yes, there is internal control system.

The awareness phase helped us to get knowledge about the socio-economic context of the company, the organizational context and the functioning of the unite Agglo Béton. It helped us to have a clear understanding of the company's core activity, turnover, and basic financial processes. Also the awareness about the company's suppliers and financial

management practices and most importantly the existence of internal control systems, and procurement procedures. This enabled us to proceed to the description of the procurement procedure since we confirmed its existence.

3.1.2.The description of the procurement (purchasing) procedure

The description of the purchasing process in evaluating the internal control system involves the detailed analysis of internal control procedures related to purchasing in an organization. This step is crucial to evaluate the effectiveness of the internal controls put in place. This step consists of tracing the existing procedures in the company in order to identify the existence or no existence of control points. This allowed us to correctly understand the system in order to evaluate it. Procurement is the process of sourcing, acquiring, and paying for goods and services. While many organizations use terms like 'procurement,' 'purchasing,' and 'sourcing' interchangeably, these are different components of the total procurement function.

Purchasing focuses on ordering and delivery, and sourcing pertains to the suppliers used for purchasing goods, but procurement refers to the entire process. Procurement includes sourcing, acquisition, settlement, analysis of procurement data, and future-spend planning. The primary mission of a procurement department is to acquire the goods a business needs at the best price and terms. Procurement professionals excel at building supplier relationships, negotiating advantageous terms, and streamlining the procurement process, from identifying a needed good or service to invoice payment. A company's purchasing process is the process of finding and acquiring all the goods, services and works that a company needs to operate and achieve its objectives. The end goal of an optimized procurement process is to reduce overall costs by finding the best possible prices and ensuring that businesses get what they need, when they need it.

Enterprise A.P.M.C Unité Agglo Béton engages both in direct and indirect purchasing as explained below:

- Direct purchasing: This is the acquisition of goods and services directly related to production within the company. Examples include the raw materials, software, services, or products that directly support the production of the products the company sells.
- Indirect purchasing: Anything not directly related to the production of goods is indirect procurement. This category includes office supplies, software the company uses to communicate internally, or facilities services not connected to a specific product the company offers.

In enterprise A.P.M.C Unité Agglo Béton the procurement procedure is described in two ways:

a. Procurement procedure for both local and import purchases.

b. Procurement procedure for storable products and material supplies, investments and services.

a. Procurement procedure for both local and import purchases.

The procedure defines the practical arrangements for purchasing operations of all kinds for the needs of the company for both local and import purchases. This procurement (purchasing) consists of making goods and services available in quantity, quality, on time and at the best cost. And to ensure this the company follows certain guidelines which are stated below:

- A purchase cannot be made without a formalized document (purchase order) duly established by the authorized person.
- Purchases are, as much as possible, part of a planned framework (annual purchasing program) and are initiated by requests for periodic needs.
- Emergency purchases must be duly justified and limited to a few specific and unforeseen situations.
- For any risky purchase (impact product/new purchase), the company must protect itself by establishing: A specification identifying the real need and specifying the specifications of the product to be purchased.

This procedure can be summarized in the following steps numbered **i- vii** following each other

i. Triggering of the order
ii. Preparing the order
iii. Reception of offers
iv. Placing an order
v. Monitoring the order in progress
vi. Reception of items
vii. Collection and control of purchases

i. Triggering of the order

Before any purchase order is placed within the company, two scenarios prompt the command. Firstly, purchases are planned within the procurement program, guided by the annual supply plan established by the company. Secondly, the command is initiated when there's a detection of a purchasing need, typically occurring when an item is out of stock or when existing quantities are deemed insufficient, potentially leading to stock shortages. This need is expressed through a well-documented material and supply request, originating from user structures and transmitted to the store. This request serves as a purchase requisition, indicating the stock level (whether out of stock or insufficient) and undergoing inventory management critical observation to compare with theoretical stock levels for potential readjustment before forwarding to the purchasing structure. Approval is required from both the inventory manager, responsible for ongoing stock level monitoring, and the stock manager, before the order can be triggered.

ii. Preparation of the order and selection of the supplier

Purchases are carried out following established procedures such as selective consultation or over-the-counter transactions, taking into account market dynamics and predetermined thresholds. Orders are prepared based on two hypotheses: the first hypothesis iswhen the

source of supply is known, typically involving repetitive purchases or commonly used items like raw materials, office supplies, or spare parts, relying on an established supplier database. Additionally, procurement extends to services including machine maintenance, equipment rental, and subcontracting. The purchasing structure engages suppliers who offer the most favourable terms regarding quality, price, delivery, and payment, facilitated through source documents to ensure efficient acquisition and management of materials and services.

Hypothesis 2 states that when the source of supply is unidentified or when competition is required among potential suppliers particularly in import purchases, the purchasing operation is initiated by triggering purchasing mechanisms. These mechanisms involve consulting various documentation sources held by the purchasing structure to identify potential suppliers and assess their ability to meet the establishment's criteria. This documentation is continuously updated and relies on standardized nomenclature. When necessary, prospecting may extend to national or foreign markets through calls for suppliers or broad consultations. The resulting offers are compiled into a comparative statement by the purchasing manager, which is then approved by management and reviewed by the supplier evaluation commission to select the preferred supplier. Additionally, purchasing criteria are established prioritizing technical specifications, financial conditions, and delivery times to ensure optimal satisfaction of customer needs.

The enterprise establishes purchasing criteria based on prioritizing quality, price, delivery time, and payment terms to satisfy customer needs effectively. Quality stands as the primary criterion, ensuring products meet customer requirements, followed by price, which serves as a differentiator among suppliers offering similar quality products. Delivery time and payment terms come into play to meet urgent supply needs and financial constraints, respectively. While quality remains paramount, for repetitive operations with established suppliers, greater emphasis is placed on price and delivery time due to the proven quality of products over time

iii. Reception of offers

In all cases which correspond to this type of operation (repetitive purchase) it is appropriate to carefully study all the selection criteria and focus the assessment on the variable element among the conditions offered by traditional or new suppliers. The results of the analysis on the criteria for choosing the supplier must be recorded in an explanatory statement based on comparative tables like; technical offers, price of products, summary of decisions.

iv. Placing an order

These comparative tables constitute the final step leading to the placing of the order both in large local purchasing operations and in import operations in the procurement procedure.

Placing an order in import operations

Import procedure leading to the placement of orders during the step of placing of orders in the import operations.

Expanded or restricted consultation, or national and international call for tenders:

- Launch of the consultation; the consultation process involves the development of a comprehensive document outlining the specifications and terms for submission, including the method of offer submission (e.g., fax or sealed envelope), technical specifications, payment terms, purchase conditions, shipping and pricing terms, contract signing conditions, and offer validity period. The submission deadline typically spans no more than 20 days, barring exceptional circumstances, ensuring a timely response from interested parties.

- Reception of offers and submissions; the offers and submissions received are recorded in the mail arriving from the secretariat of the Directorate, on registration number as well as the date of reception will be included on the envelope, fax according to the previously defined mode. The opening of envelopes is carried out at the latest within 15 days after expiration of the deadline for submission of offers.

- The bid opening commission; established by decision of the director-general, comprises designated members of the Management Board and is responsible for ensuring compliance with submission conditions. It oversees the opening of bids, ensuring adherence to submission requirements, and prepares meeting minutes including crucial details such as bid opening date, present members, consultation number, submission deadline, accompanying documents, offer amounts, and the count of incomplete offers. The purchasing manager acts as the secretariat, and the minutes are circulated to all commission members for review and reference.

- Evaluation of offers (comparative tables); the supplier evaluation committee, established by decision of the president of general management and composed of designated members of the management board, is tasked with creating comparative tables within a one-week timeframe. These tables include all aspects of the consultation, ensuring thorough comparison of offers. Criteria such as precise product indication, quantity, quality, technical characteristics, price and purchasing conditions, payment terms, and material origin and guarantee are considered, with prices converted into dinars at the current bank rate. The ranking of offers is determined based on price, quality, warranty, and deadline. Following presentation to the management board for approval, the selected supplier(s) are chosen.

- The negotiation commission; established and led by the CEO, holds the responsibility of securing additional benefits from suppliers such as price discounts,

improved packaging conditions, and desired support measures. The secretariat of the committee facilitates the process by scheduling supplier appointments, convening commission members, and providing comparative tables at least 48 hours prior to meetings. Using these tables, the commission evaluates offers, considering both the initial preferences and any newly negotiated advantages, to make a final selection within one month of the offer deadline. Once a supplier is chosen, the contract is finalized, concluding the operation

Placing an order in Local operations

After the selection of the supplier, the enterprise proceeds to place the order which can be in the form of a contract or a purchase order must include all the elements of the agreement intervened between the supplier and the enterprise.
This purchase order should include the date, order number, supplier's name and address, detailed description of the articles including references and specifications, quantities ordered, precise unit prices, contract terms regarding delivery ,indication of whether transport costs are included, delivery timeline or exact date, destination, payment method (cash or credit), instrument details, payment due date, and the signature of the authorized person responsible for the order, typically the establishment or unit manager.

v.Monitoring the order in progress:

Order monitoring is a critical process that spans from order placement to delivery, aimed at safeguarding establishments from potential disappointments. It involves three key operations: order confirmation, monitoring delivery times, and a reminder system for delays. The use of an order tracking sheet facilitates this monitoring process by documenting and verifying order execution stages. This sheet serves to inform relevant departments, such as production and cash flow management, about the status of orders, enabling timely actions like manufacturing launches and financing arrangements. By consolidating information from various source documents like procurement programs, purchase contracts, invoices, and delivery notes, the order tracking sheet ensures reliable, real-time insights into the sequential progress of purchasing operations, offering both protection and valuable data for informed decision-making.

vi. Reception of items:

Upon collection of items from the supplier, the company ensures the accuracy and completeness of the received goods, inspecting each item for quality and quantity. Once verified, the items are transported to the establishment's store level, where they undergo another inspection to confirm their reception. This dual-phase process ensures that all items procured align with the establishment's standards and requirements, guaranteeing optimal quality control and operational efficiency.

vii. Collection and control of purchases:

The process of collecting purchases from suppliers requires adherence to specific prerequisites to ensure efficiency and accountability. It mandates the presence of a purchasing department agent at the collection point, overseeing the operation from reception of the purchase request to item arrival at the store, verifying against the purchase order and endorsing the supplier's invoice upon completion of formalities. This procedure aids in pinpointing responsibilities, distinguishing errors between buyer and supplier, and involves the driver in cases of unloading at the establishment. However, the presence of the purchasing department agent does not relieve the driver from customary documentation obligations such as providing personal details and signatures on invoices and receipt vouchers.

b.Procurement procedure for storable products and material supplies, investments and services.

This procurement procedure explains how each type of the need of the company is purchased and it applies to the purchase of storable products and materials supplies, investments and services from outside and includes subcontracted work.

This procedure can be summarized in steps which are as follows **numbered 1-7** following each other

1. Need identification and expression
2. Analyse the offers
3. Selection of suppliers
4. Making of an order
5. Reception of goods
6. Reconciliation and correspondence during the reception
7. Approval and payment

i.Need identification and expression:

The expression of the need varies depending on its nature in this enterprise A.P.M.C Unite Agglo Béton. There are different types of needs for example:

- The storable product and supplies needs; these are storable products required by a certain service to fulfil its operational requirements for example need of buying cement.
- The service needs; these are services required by a certain service to fulfil its operational requirements for example maintenance of machines and production equipment (repairing). The request is called the request of reparation which does not need an inventory controller to verify the products in stocks it’s taken directly to the director of the unit to validate it.
- Investment needs which consists of production materials, tools, and maintenance, equipment, furniture, and other office essentials

Since this procedure applies to the purchase of storable products and material supplies, investments and external services their need identification and expression can be explained in detail as follows since there are different types of needs:

The storable product and material supplies need expression

These are products required by a certain service to fulfil its operational requirements for example need of buying cement. Any structure in the enterprise can express a need by formulating a supply request and transmit it by email, post, or fax stamped or confirmed by the person in charge of the structure and sends to the store manager. The Store Manager receives a supply request for materials and supplies in two **(2) copies** from the requesting structure.

The store manager verifies the availability of the requested products and if the materials and supplies requested are available in the store, he refers to the stock removal procedure.

But when the materials and supplies are not available in store, the store manager then;

- prepares a purchase request in three **(3) copies** and signs it,
- submits the original to the purchasing manager,
- gives a copy to the requesting structure,
- files a copy of the purchase request and the materials and supplies request in the "purchase requests" timeline.

This request must contain the following information: the name of the applicant and its structure, mention the level of stock in store (out of stock, insufficient), the date of the request, the designation of the product or service with details of the specifications (references, specifications charges, technical sheets) and the desired quantity, delivery time and location.

The store manager can also trigger the purchase when he notices that the quantities in stock have reached the minimum stock (alarm stock).Then the purchase manager sends specifications and a duly signed purchase request to the buyer.

Receives a copy of the purchase request bearing acknowledgment of receipt from the buyer.

The investment needs

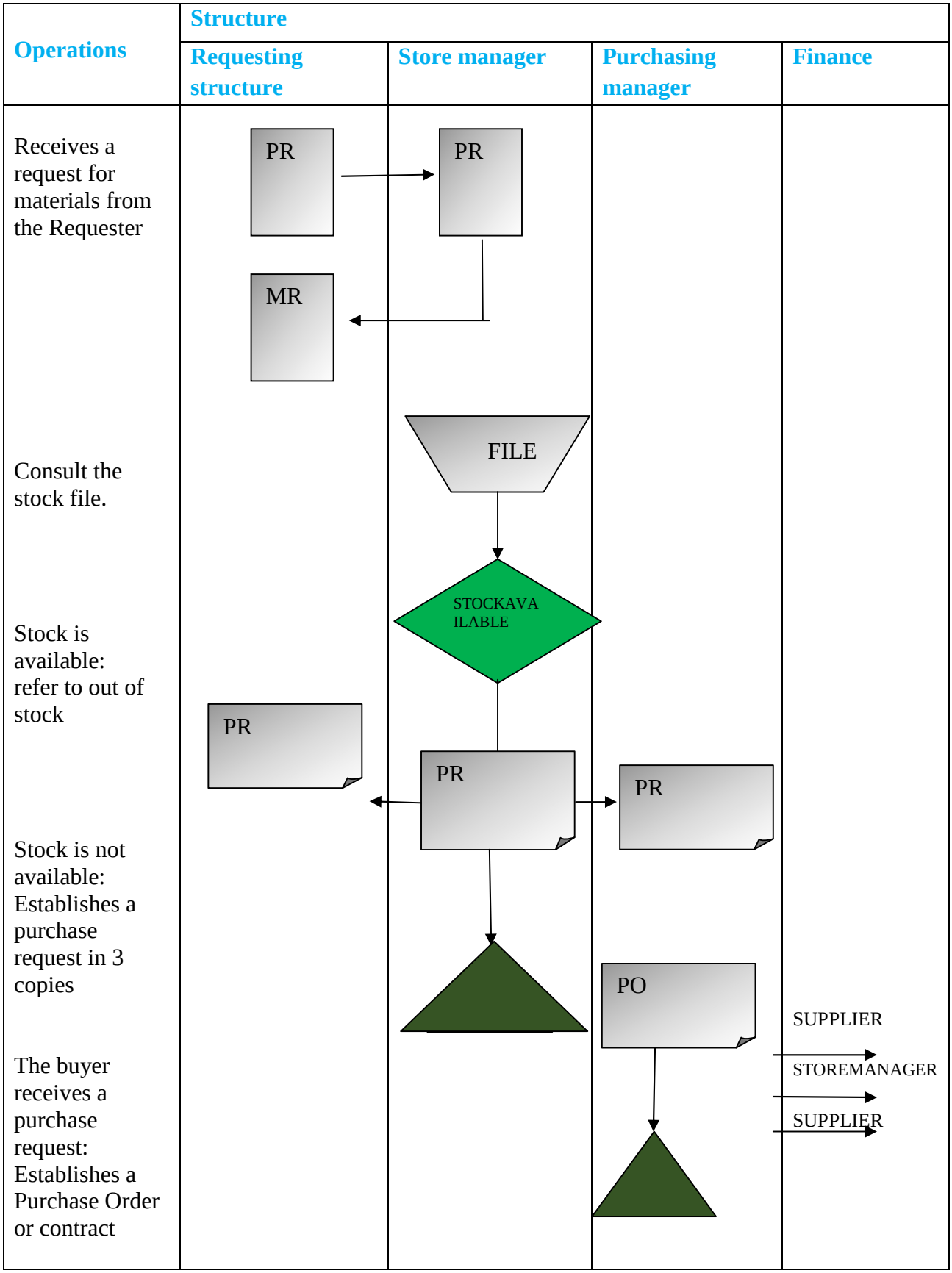
The procurement process for investments involves two key structures within the organization: the technical structure, the administration and the finance structure. The technical structure handles acquisitions related to production materials, tools, and maintenance, while the administration and finance structure manages purchases of equipment, furniture, and other office essentials. When a purchase request is initiated, it is sent in **2 copies** to the finance structure which stumps them and returns one copy with acknowledgement of receipt to the sender and consults the investment budget. If the requested materials are within budget, the Finance Manager processes the request and when the requested materials are not budgeted for, he transmits the request to the Unit Director or General Director for approval. Upon approval, the Finance Manager prepares a

purchase request in **3 copies,** signs it, submits the original to the purchasing structure, provides a copy to the requesting structure, and files another copy in the "purchase requests" timeline for documentation and tracking purposes.

Then the structure responsible for managing the investment (supplies management), based on the investment program for the financial year;

- Develops the investment study; technical specifications of materials, equipment to be purchased, (detailed descriptions and plans of the work to be carried out, etc.),
- drafts the specifications relating to the investment,
- submits a copy of the specifications to the purchasing structure concerned and files a copy at its level,
- establishes a material request in three (3) copies and signs it,
- sends the original and a copy of the material request to the buyer,
- receives a copy of the material request bearing acknowledgment of receipt from the buyer.

Figure 14: Document circulation diagram during the triggering of the purchase



Source: Internal document of the enterprise A.P.M.C

ii. Analysis of offers

The purchasing structure brings the pro-forma and the inventory controller establishes the comparative table which provides the following details:

- Item needed
- Quantity
- Supplier information
- Price

The Purchasing structure; calls on the bid opening committee to meet. The opening committee establishes a list of submissions and completes the comparative table of offers. The comparative table of offers and all of the bids are submitted to the supplier evaluation committee which meets within 72 hours to study the offers from suppliers according to selection criteria previously set by the General management of the company.

Below is an example of the comparative table of offer used in one of the purchasing operation of the company A.P.M.C Unité Agglo Béton.

Table 3: Comparative table of offers

				SUPPLIERS				
Elements	**Units**	**Quantities**	**ENOF**	**COSIDER**	**ISAADI**	**LAFARGE**	**MEZIANE**	**BENAMA AMAR**
Sand 0/3	T	2000	700	600	850	600	550	640
Gravel 3/8	T	3000	500	440	650	450	350	420
Gravel 8/15	T	1000	700	600	850	510	540	580
Transport	T					400	-	

Source: Internal document of the enterprise AMPC.

The purchasing manager studies and analyses the offers received in the Comparative Table of Offers (CTO) in collaboration with the service concerned (requirement requester), for technical advice.

According to this CTO the commission studied and evaluated offers relating to the consultation carried out by the A.P.M.C Unité Agglo Bétonwhich consisted of buying of gravel and sand, number of companies consulted was 06 and number of offers received was also 06.

iii. Selection of suppliers

The supplier choice procedure has three distinct methods: open call for suppliers, restricted call for suppliers, and over-the-counter procurement. In an open call for suppliers, the purchasing structure initiates a transparent process by distributing specifications to potential suppliers, receiving and recording submissions, and ultimately selecting a supplier based on established criteria. Similarly, in a restricted call for suppliers, the process involves submitting specifications to select suppliers, evaluating offers with a committee, negotiating with top-ranked suppliers, and finalizing contracts. On the other

hand, in the over-the-counter method, procurement is reserved for urgent actions or specialized needs, where a limited number of suppliers submit quotes, and the unit director selects a supplier based on capacity and quote evaluation, with subsequent contract finalization. These procedures ensure methodical supplier selection tailored to the specific requirements and urgency levels within the company's framework.

The purchasing structure defines the criteria (price, deadlines, quality, financial health, customer base, etc.) for selecting suppliers and establishes the Comparative Table of offers. In the procurement process, the number of offers considered for inclusion in the Comparative Table of offers varies depending on the total amount, either above or below specified limit, typically 1,000,000 DZD for products and 600,000 DZD for services. For purchases falling below these thresholds, the company can internally analyse and procure products without the need for public suppliers. However, for purchases exceeding these thresholds, the company is obligated to follow specific procedures, potentially involving open market consultations and issuing Requests for Quote (RFQs) to solicit proposals from potential suppliers. Once offers are received and vetted by management, the purchasing manager collaborates with the requirement requester to select suppliers and request quotes, with final validation from the director typically based on three pro-forma invoices. This process aims to ensure transparency, competition, and secure the best offers for the company while adhering to established procedures and regulations.

For example, in our comparative table above, following the presentation of the file and after having examined all the documents, the members of the commission unanimously propose to retain the supplier SARL Meziane as the lowest bidder. The supplier Lafarge (aggregate station Azrou SPA) in its capacity as supplier offering transport is retained in the event of a need for transporting gravel and sand. Once the best supplier is selected, the negotiation process begins.
The purchasing manager receives this report, engages in negotiations with the highest-ranked suppliers alongside the technical, finance, and relevant managerial personnel. Following negotiations, a supplier or service provider is selected. A draft contract is then prepared by the purchasing structure and approved by the financial structure and relevant director. The selected supplier is informed and provided with the draft contract, which undergoes revisions based on supplier feedback before submission to the Director for signature. The signed contract is distributed to various stakeholders for execution, including the supplier, President general management, unit management, finance and supplies structure, and the head of the concerned structure in cases of subcontracted work.

iv. Making of an order

This step applies to any purchasing transaction: investment, stock and to any service provided by third parties once the purchase request has been approved.
In this step the purchasing manager receives the purchase request (or the material request) and compares it with the purchase budget for stocks or investments, also receives the report of choice of the supplier or service provider, where applicable the pro forma

invoices indicating the choice of the supplier, and then establishes a purchase order in **four (4) copies** or the contract and has it signed by the Director of the unit.

v.Purchase and reception of goods

The purchasing structure establishes a payment request **in 4 copies** on the basis of a pro forma invoice or a supplier quote, then sends the payment file to the manager of the requesting structure: Payment request **(4 copies),** Pro forma invoice, purchase order (4 copies), a copy of the purchase request.

The requesting manager receives the payment file, checks it, signs it and transmits it to the financial structure which issues the check.

Then again purchasing structure receives, from the financial structure the purchase file: a payment request bearing the check references and signed by the financial manager and the director, the purchase order (copy + original), the pro forma invoice or the quote, requirement of purchase and the check are made out to the supplier and then:

- Gives the purchase order (original) and check to the supplier
- Receives documents from the supplier: Delivery note, Supplier invoice

The goods are received by the store manager and the representative of the requesting structure to validate the conformity of purchases. The store manager receives and inspects them to ensure the quality and accuracy of the delivery. If the order does not meet expectations, the recipient can request adjustments from the supplier or return the delivery. If the order meets the expectations, then the Goods received note is made by the store manager.

vi. Reconciliation and correspondence during the reception

After reception of the goods, the purchasing structure receives, from the store manager, the goods received note (**original + 2 copies**) and performs document checks: Purchase order versus supplier invoice, supplier invoice versus Goods received note.

In the event of a deviation in quantities or in the event of rejection due to insufficient quality, the purchasing structure resolves the problem with the supplier.

In the event of compliance, he affixes his signature to the receipt and distributes it:

- Original receipt, copy of invoice, delivery note: accounting
- Classification; receipt slip copy, purchase Order, copy and invoice copy in the Supplier Invoices.

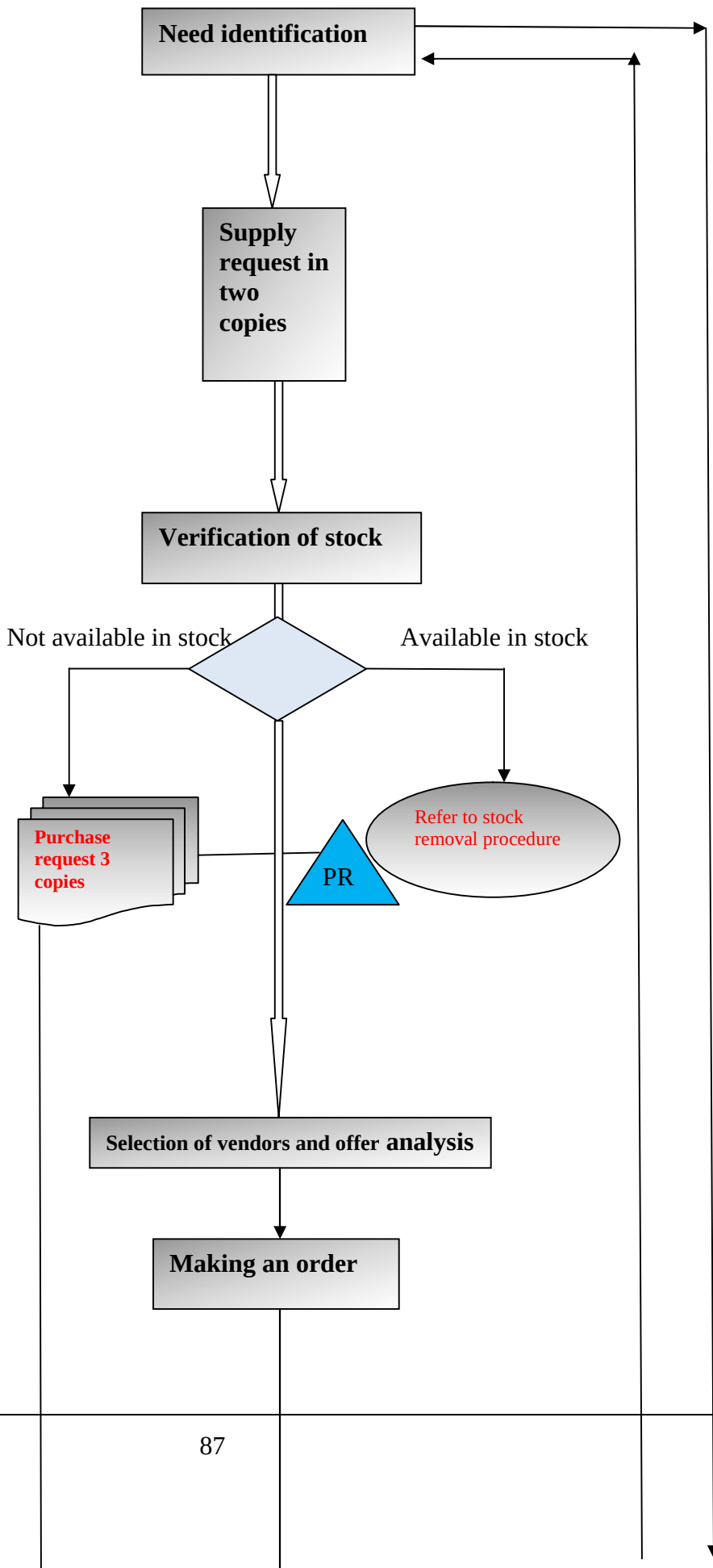
vii. Approval, payment of the invoice and recording of the purchase

The invoice is approved and paid then for the case of payment on credit, in arrears, the financial structure pays the supplier (the disbursement procedures referred to).

Then the general accounting structure receives the purchase file from the accountant which includes; original invoice, receipt slip copy, purchase order copy

Then checks the documents: ensures that the purchase file is complete, compliance of the receipt slip copy with the invoice, arithmetic check of the invoice, and then proceeds to the accounting allocation of the purchase transaction on the imputation sheet and proceeds to the entry on the imputation form.

Figure 15: Flow chart illustrating the steps of the procurement procedure

Narrative Description	Graphic Description
Requesting structure Need identification by the requester. **Store manager** Verification of stock by store manager Purchase manager makes a purchase an order and a payment request to make an order	

Purchasing manager
The purchasing manager makes a purchase order and then establishes a payment request.

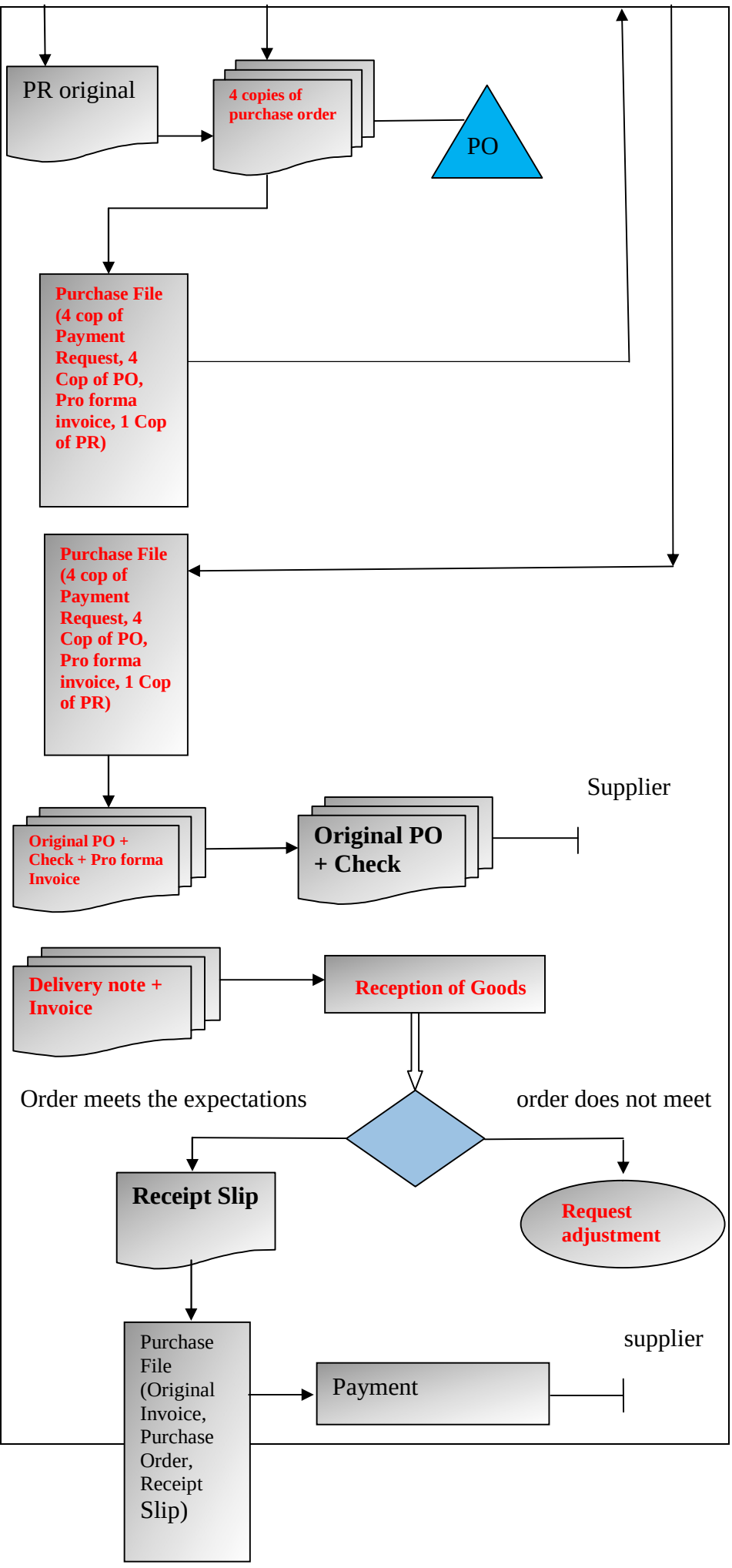
Purchasing manager establishes a payment file and sends it to the requesting structure which then sends it to the accounting service.

Accounting and Finance structure
Receiving of the payment file from the requesting structure.

Purchasing manager
Purchasing manager receiving documents from the accounting and finance structure.

Logistic service;
purchasing manager receiving documents from the supplier and the store manager receiving goods

Accounting and Finance structure
Payment and approval.



Source: Realised by ourselves from the Internal documents of the enterprise A.P.M.C Unité Agglo Béton.

The flow chart above visually illustrates all the necessary steps of the procurement procedure.

Table 4:Main weaknesses/risks and recommendations from the flow chart

Weakness	Possible operational risk	Recommendations
Supply request form: All structures formulating their own supply requests shows a lack of standard way of formulating a supply request form during the expression of the need.	Risk of confusion and inefficiency since different services might have varying ways of formulating the supply form. Risk of inconsistency due to the different information provided by different requesters making it difficult for the store manager to accurately interpret their requests.	Standardisation of the supply request form to avoid confusion and inefficiency in the different services.
Verification of stock by Store Manager: Relying on only the store manager to verify the stock levels without involving without involving other individuals that are involved in the inventory management like the inventory controller.	Risk of errors in inventory management Risk of under or over-ordering in case the stock levels are not accurately assessed hence impacting operational efficiency and budget management.	Involving other individuals that are involved in the inventory management like the inventory controller and inventory manager with the store manager during the verification of store to avoid the risk of error
The purchase request is not systematically generated but it made manually and the physical paperwork.	Risk of errors, losing documents, slow communication, and limited traceability	Implementing a digital procurement system that automates purchase requests.
During the making of the order there is concentration of purchasing authority in a single individual who is the purchasing manager.	The lack of segregation of duties can increase the risk of fraud, errors, or abuse of power.	Giving authority to other individuals like the buyer to make orders.
During the purchase and reception there are multiple copies of documents circulating between different services.	Risk of fraudulent activities such as unauthorized modifications to payment requests or invoices, or the creation of duplicate payments and delays.	Reduction of the copies of documents circulating to remain with the most important documents to reduces the risks.

Source: Realized by ourselves.

Relationships between different individuals and structures involved in the procurement procedure

Throughout this procurement process, different structures or services within the enterprise depend on each other in various ways:

- The requester from the requesting structure relies on the store manager from the purchasing structure to verify stock availability and initiate the procurement process if necessary. The requester, representing various services within the enterprise, serves as the initial catalyst for the procurement process. His role is vital as he identifies the need for specific items or services required to fulfil operational requirements. However, the requester's ability to proceed depends significantly on the availability of stock within the organization's inventory. Thus the requester relies on the store manager, who serves as the custodian of the organization's inventory, to verify the availability of required items. If the items are not in stock, the store manager becomes the gatekeeper, initiating the procurement process by communicating the need to replenish stock to the relevant service.

- The store manager depends on the purchasing manager to process purchase requests and issue purchase orders. Meanwhile, the store manager plays a dual role in the procurement process. While responsible for ensuring stock availability, they are equally dependent on the purchasing manager to fulfil procurement needs efficiently. Once the need for procurement is identified and verified, the store manager relies on the purchasing manager to process purchase requests and make purchase orders. It also depends on the direction where it sends the purchase request to be validated by the director of the unit

- The purchasing structure depends on the accounting and finance service to approve invoices and facilitate payment. The purchasing structure holds a central position, in the acquisition of goods and services required by the organization. However, their ability to execute procurement tasks is upon the support and collaboration with the accounting and finance service. While the purchasing structure is tasked with processing purchase requests, evaluating suppliers, and making purchase orders, their efforts end in the approval and payment stage, which lies within the domain of the accounting and finance service. Therefore, the purchasing structure depends on the accounting and finance service to approve invoices, facilitate payment to suppliers, and ensure compliance with financial regulations. It also depends on the direction of the company

- The finance structure relies on budgetary information from various units to ensure that purchases align with the organization's financial plans. The finance structure is

responsible for overseeing the organization's financial health and adherence to budgetary guidelines, relies on critical information from various services to make informed decisions regarding procurement. Budgetary considerations are paramount in determining the feasibility and appropriateness of procurement activities. Hence, the finance structure depends on input from different departments, including purchasing structure, to ascertain that proposed purchases align with the organization's financial plans and budget allocations.

We verified that both procurement procedures used in the company described show a well-structured approach, ensuring transparency and accountability at every step. From need identification to supplier selection, payment, and reconciliation, the process is well documented and involves various individuals and also concerns both local and import purchases. However, despite its thoroughness, certain weaknesses are apparent. For instance, the reliance on manual documentation and communication methods such as email, post, or fax could lead to inefficiencies and delays. Moreover, the involvement of multiple committees and layers of approval may prolong decision-making processes, potentially impacting the organization's agility in responding to urgent procurement needs.

3.2.Evaluation of the system

In this section, we proceeded to the evaluation of internal controls in the procurement procedure that includes describing the strengths and weaknesses of the internal control system in the purchasing cycle at the entreprise A.P.M.C Unité Agglo Béton.

This evaluation is segmented into three key steps: the preliminary evaluation, permanent test and the final evaluation. Each step is designed to provide a detailed analysis of the internal control system. Before we proceeded to the preliminary evaluation we found it important to first verify the existence of the internal control system through a compliance test below.

3.2.1.Verification of the existence of the internal control system(Compliance test)

After describing the purchasing procedure, we carried out a test called a “compliance test”, which makes it possible to follow the purchasing operation or transaction throughout the procedure in order to ensure the existence and the application of the internal controls.

To do this, we used the following documents: The purchase request; Purchase order; the delivery note; the reconciliation of three documents Invoice, Goods received note, purchase order.Below is the conformity test we carried out as part of the process of evaluating the internal control system in the purchasing cycle for the case of A.P.M.C Unité Agglo Béton.

, in the tables one showing the abbreviations used and another one showing the compliance test:

Table 5: Abbreviations for the compliance test table

S-PM	signature of purchasing manager
S-UD	Signature of unit director
S-RS	Signature of requesting structure
S-SM	Signature of store manager
S-Su	Signature of Supplier
S-Se	Signature of Secretary
IN	Invoice
PO	Purchase order
GRN	Goods Received Note
NO.	Number
PR	Purchasing request

Source: Realized by ourselves

Table 6: Compliance test

PURCHASE CYCLE COMPLIANCE TEST															
Purchase request/Repair					**IN Pro format**	**Purchase order**			**Goods Received Note**			**Reconciliation**		**Invoice**		
N0.PR	**S-PM**	**S-UD**	**S-RS**	**S-SM**	**Exists**	N0.	**S-Su**	**S-UD**	**N0.**	**S-UD**	**S-SM**	**IN/GRN/PO**	**PO/ GRN**	**N0.**	**S-Se**	**S-Su**
000504 **A**	✓	✓	✓	×	YES	000881	✓	✓	001877		✓	YES	YES	**2023090014**	✓	✓
000495 **B**	✓	✓	×	×	YES	000861	✓	✓	001867		✓	YES	YES	**2458795**	✓	✓
000494 **C**	✓	✓	✓	×	YES	000860	✓	✓	001868		✓	YES	YES	**6/2023**	✓	✓
000410 **D**	✓	✓	✓	✓	YES	000734	✓	✓	001830		✓	YES	YES	**00019**	✓	✓
000228 **E**	✓	✓	✓	✓	YES	001006	×	✓	001708		✓	YES	YES	**00087/2022**	✓	✓
001028 **F**		✓	✓		NO	000908	✓	✓				YES	NO	**006/2023**	✓	✓
001320 **G**		✓			NO	1819	✓	✓				YES	NO	**053274**	✓	✓

Source: Realised by ourselves from the Internal documents of the enterprise A.P.M.C Unité Agglo.

We did the analysis of the compliance test in various steps numbered from **i to iii** which included reading of the results, our analysis or commenting on the results from this test and our recommendations/conclusion on the results from this test.

i. Reading of the results.

This reading consists of how different purchasing operations are done and authorized as shown in the table 6 using different documents involved in the procurement procedure in the company A.P.M.C Unité Agglo Béton as shown below:

- In purchase operation A, the purchase request number 000504 is signed by the purchasing manager, the director of the unit and the requesting structure but it is not signed by the store manager. The invoice profoma exists for this operation. The purchase order number 000881 is signed by the supplier and the director of the unit. The Goods Received note number 001877 is signed by the store manager and the director of the unit. Reconciliation between the invoice the Goods Received Note and purchase order plus also the one between purchase order and the Goods Received Note is done for this operation. The invoice number 2023090014is signed by the secretary of the director of the unit and the supplier.

- In purchase operation B, the purchase request number 000495 is signed by the purchasing manager, the director of the unit but it is not signed by the store

manager and the requesting structure. The invoice profoma exists for this operation. The purchase order number 000861 is signed by the supplier and the director of the unit. The Goods Received note number 001867 is signed by the store manager and the director of the unit. Reconciliation between the invoice the Goods Received Note and purchase order plus also the one between purchase order and the Goods Received Note is done for this operation. The invoice number 2458795 is signed by the secretary of the director of the unit and the supplier.

- In purchase operation C, the purchase request number 000494 is signed by the purchasing manager, the director of the unit and the requesting structure but it is not signed by the store manager. The invoice profoma exists for this operation. The purchase order number 000860 is signed by the supplier and the director of the unit. The Goods Received note number 001868 is signed by the store manager and the director of the unit. Reconciliation between the invoice the Goods Received Note and purchase order plus also the one between purchase order and the Goods Received Note is done for this operation. The invoice number 6/2023 is signed by the secretary of the director of the unit and the supplier.

- In purchase operation D, the purchase request number 000410 is signed by the purchasing manager, the director of the unit and the requesting structure even also signed by the store manager. The invoice profoma exists for this operation. The purchase order number 000734 is signed by the supplier and the director of the unit. The Goods Received note number 001830is signed by the store manager and the director of the unit. Reconciliation between the invoice the Goods Received Note and purchase order plus also the one between purchase order and the Goods Received Note is done for this operation. The invoice number 00019 is signed by the secretary of the director of the unit and the supplier.

- In purchase operation E, the purchase request number 000228 is signed by the purchasing manager, the director of the unit and the requesting structure even also signed by the store manager. The invoice profoma exists for this operation. The purchase order number 001006 is signed by the director of the unit but not signed by the supplier. The Goods Received note number 001708 is signed by the store manager and the director of the unit. Reconciliation between the invoice the Goods Received Note and purchase order plus also the one between purchase order and the GRN is done for this operation. The invoice number 00087/2022 is signed by the secretary of the director of the unit and the supplier.

- In purchase operation F (investment operation), the purchase request number 001320 is only signed by the director of the unit and the store manager but it was not signed by the purchasing manager and the requirement requester. The invoice profoma does not exist for this operation because it’s an investment. The Purchase order number 000908 is signed by the director of the unit and the supplier. The Goods Received doesn’t exist. Reconciliation between the invoice the GRN and

purchase order is done for this operation but the one between purchase order and the Goods Received Note is not done since the GRN doesn't exist. The invoice number 006/2023 is signed by the secretary of the director of the unit and the supplier.

- In purchase operation G (Service operation), the purchase request number 001320 was only signed by the director of the unit but it was not signed by the purchasing manager and the requesting structure and the store manager. The invoice profoma does not exist for this operation because it's a service operation. The Purchase order number 1819 is signed by the director of the unit and the supplier. The Goods Received doesn't exist. Reconciliation between the invoice the Goods Received Note and purchase order is done for this operation but the one between purchase order and the Goods Received Note is not done since the GRN doesn't exist. The invoice number 053274 is signed by the secretary of the director of the unit and the supplier.

ii. Our analysis or commenting on the results from this test.

- In purchase operation D, we observe that there is conformity in the whole procedure because all the responsible people signed on each document so there is good documentation in the operation and also all documents exist so this operation complies with the purchase procedures.

- In purchase operation A and C, we observed the use of internal controls like reconciliation between documents (invoice, purchase order, and Goods Received Note).The purchase request was not signed by the store manager which indicates a weakness in authorization control which is likely to raise operational risks like difficulty to effectively manage inventory and prevent shortages or surpluses since purchases might not be made based on actual need of the requesting structure.

- In purchase operation B, we observed that the internal controls like supplier management control existed since the supplier signed on the purchase order and as well as document reconciliation. The purchase request was not signed by both the requesting structure and the store manager and this is likely to raise operational risks like unauthorized or inappropriate purchases which can lead to risk of fraud or misuse of company resources. This is due to lack of validation where it is difficult to prove that the purchase request has been authorized and approved by the parties involved and it can be difficult to follow the purchasing process and know where an order is at any given time.

- In purchase operation E, we observed that internal controls like segregation of duties because multiple individuals from different services (purchasing structure and requesting structure) are involved in the authorization process, document reconciliation, compliance monitoring, were used. The purchase order was not signed by the supplier which shows that the supplier didn't receive and accept the

order and this is likely to raise operational risks like difficulty to track the order and resolve possible problems that may arise subsequently, such as delivery delays or errors in the ordered products.

- In purchase operation F, we observed that some internal controls did not exist such as authorization controls due to lack of signatures from key individuals (purchasing manager and requirement requester) suggests a weakness in authorization controls and documentation controls due to absence of Goods Received Note and this is likely to lead to operational risks like fraud due to missing signatures, receiving of poor quality goods due lack of good received notes to do a reconciliation.

- In purchase operation G, we observed that internal control such as authorization controls was not respected due to lack of signature of the requesting structure on the repairing request and this is likely to lead to operational risk of the risk of unauthorized transactions or improper expenditure of funds since the requester does not validate the repairing request by the signature.

Generally, in the compliance test conducted on the procurement process, several notable weaknesses were identified, particularly regarding the authorization and documentation of purchase requests, purchase orders, and goods received notes. The absence of required signatures, such as those from the store manager on purchase requests and the purchase manager on purchase requests, undermines critical aspects of accountability, traceability, and responsibility within the procurement workflow. Without these signatures, there's a risk of inaccurate information, duplicate purchases, and breaches in adherence to company rules and procedures. Moreover, the failure to obtain signatures on purchase orders and goods received notes could potentially lead to disputes with suppliers, as these signatures serve as proof of consent and acknowledgment of received goods, respectively.

Despite these weaknesses, the compliance test also revealed strengths of the procurement process, such as the existence of pro forma invoices and the general adherence to reconciliation between goods received notes, purchase orders, and invoices. The signed invoices demonstrate a level of accountability and validation of received services or goods.

The compliance we carried we were able to evaluate the internal controls used in the purchasing operations which helped to find some strengths and potential operation risks in the purchasing operations of the company A.P.M.C Unité Agglo Béton and this is helped to give recommendations to these operational risks in our next part below.

iii. Our recommendation/ conclusion on the results from this test.

The enterprise AMPC should ensure the following to reduce the risks in its operations:

- We recommend the enterprise A.P.M.CUnité Agglo Béton to strengthen the authorization controls. By ensuring all purchase requests are signed by relevant authorities and provide training to store managers on their role in approving purchase requests in order minimise operational risks we analysed in operations A

and C such as difficulty in managing inventory effectively and unauthorized purchases.

- We recommend the enterprise to implement clear hierarchy for authorization. Ensure both requesting structure and store manager sign off on purchase requests before processing orders in order to reduce operational risks such as unauthorized or inappropriate purchases and difficulty in validating authorized requests due to lack of signatures on the purchase request by both the requesting structure and the store manager. This recommendation is made to improve the operational risk management in the analysis we made in operation B.

- We recommend the enterprise to strengthen the supplier management by ensuring suppliers acknowledge. we also recommend it to accept purchase orders and to Implement a system to track orders from placement to delivery. This is to minimise operational risks we analysed in operation E such as difficulty in tracking orders and resolving issues such as delivery delays or errors in products due to purchase order not being signed by the supplier.

- We recommend the enterprise to enforce authorization controls by ensuring all key individuals sign off on purchase documents. Reinforce the importance of maintaining comprehensive documentation, including GRNs. This is to minimise operational risks we analysed in operation F such as potential fraud and receiving poor quality goods which are as a result of lack of signatures from key individuals (purchasing manager and requirement requester) and absence of Goods Received Note (GRN).

- We recommend the enterprise to implement clear procedures for requesting and approving repairs, including signatures from relevant authorities and also provide training to employees on their role in validating repair requests. This is to minimise operational risks we analysed in operation G such as unauthorized transactions or improper expenditure of funds caused by lack of signature from the requesting structure on the repair request.

To conclude on this compliance test, despite the weaknesses we have noted, the written procedures are still the ones that are used. The compliance test conducted on A.P.M.C Unité Agglo Béton's procurement process verified the existence of an internal control system through the evaluation of key documents and procedures, including the purchase request, purchase order, delivery note, and the reconciliation of invoices, goods received notes, and purchase orders. The verification process involved checking for the presence of necessary signatures, the proper execution of document reconciliation, and adherence to established procedures. While the test confirmed that an internal control system is indeed in place, it also highlighted areas needing improvement, particularly in authorization controls and documentation accuracy. After having verified the existence of the system we did the preliminary evaluation in our next part.

3.2.2.Preliminary evaluation of internal control system in the purchasing cycle

The preliminary evaluation of internal control consists of a crucial step in the evaluation of the internal control system. It makes it possible to identify the strong points and weak points of the internal control system. This evaluation aims to evaluate the system of internal control by identifying the theoretical and practical strengths of the system, as well as possible failures. To do this, it is enough to see, for the purchasing cycle, whether the internal control objectives are achieved and the control activities which should really exist.
At this stage, to form an opinion on the ability of the system to satisfy the internal control objectives specific to the purchasing cycle. In order to identify the theoretical strong points and weak points of the internal control system. To this end, we used the task analysis grid and the closed Internal Control Questionnaires (I.C.Q).

a. The task analysis grid

The task analysis grid is a tool which allowed us to evaluate the effectiveness of internal controls in the separation of tasks in the procurement procedure and detect operational risks. For each major function or each elementary process, we designed the grid including the unitary breakdown of all the operations relating to the purchase cycle.
Therefore, it is a diagnostic tool which allowed us to notice the weaknesses in the principle of separation of tasks.
Incompatible functions are:

- Operational functions (example: purchasing, sales, etc.),
- Conservation functions (example: holding of goods and values, i.e. store, cash register, etc.); Recording functions (example: accounting),
- Control fonctions (example : internal audit, management control, etc.).

Table 7: Abbreviations for the task analysis grid

Req structure	Requesting Structure
PM	Purchasing Manager
SM	Store manager
PS	Purchasing structure
IM	Inventory Manager
MC	Management controller
U.D	Unit Director
INC	Internal controller
GD	General Director

ACC	Accountant

Source: Realized by ourselves.

Below we have carried out an analysis of the tasks carried out by certain people who are in direct or indirect relationship with the purchasing department, through the cross-checking between a list of operations carried out and the participants:

Table 8: The task analysis grid

	Nature Of the task	**Req structure**	**PM**	**SM**	**Purchasing structure**	**IM**	**MC**	**U.D**	**D.G AMPC**	**INC**	**ACC**
Requesting	**Execution**	✓									
Purchase request	**Execution**			✓	✓						
Validation of the Request	**Authorization**							✓	✓		
Inventory verification	**Execution**			✓		✓					
Supplier selection	**Execution**	✓	✓		✓			✓			
Making order	**Execution**		✓								
Authorization Order	**Authorization**							✓	✓		
Order – invoice comparison	**Control**			✓	✓		✓			✓	
Comparison of receipt – invoice	**SAP**			✓	✓						
Reception	**Execution**			✓	✓	✓	✓				

Accounting entry	**Bookkeeping**										✓
Verification of the accounting entry	**Control**										
Maintaining a purchasing journal	**Execution**										✓
Maintaining supplier accounts	**Execution**										✓
Reconciliation of supplier statements with accounts	**Control**										✓
Supplier balance reconciliation with the collective account	**Control**										✓
Signing checks	**Authorization**							✓			✓
Sending checks	**Execution**										✓
Cash journal keeping	**Execution**										✓
Access to general accounting	**Authorization**										✓
Invoice tracking	**Execution**					✓					✓

Source: Realised by ourselves from the Internal documents of the enterprise A.P.M.C Unité Agglo Béton.

We analysed the task analysis grid in various steps numbered from **i to iii** which included reading of the results, our analysis or commenting on the results from this test and our recommendations/conclusion on the results from this test.

i. Reading of our results: The following points are the explanations of the table above which is the task analysis grid to understand more the separation of tasks:

- Request initiation; the requesting service initiates the purchase request. Purchase request is executed by the store manager and purchasing structure. The request undergoes validation by Unite Director and General Director, ensuring alignment with organizational goals and budgets.
- Inventory verification and supplier selection; inventory manager verifies inventory levels. supplier selection involves collaboration among requesting service, purchasing manager, inventory manager, and Unit Director, ensuring diverse perspectives and expertise.
- Order placement and authorization; purchasing manager executes the order placement, ensuring timely acquisition of goods/services. Authorization of orders by Management Controller and Unit Director ensures accountability and compliance with policies.
- Reception and invoice processing; store manager, purchasing structure, and Inventory Manager oversee reception, ensuring accuracy and completeness. Invoice processing involves multiple steps including order-invoice and receipt-invoice comparison which are controlled by store manager, purchasing structure and internal control enhancing financial accuracy and fraud prevention.
- Accounting processes; accountant is responsible for various accounting tasks including booking entries, maintaining purchasing journal, and reconciling supplier balances with collective accounts. Verification of accounting entries by the accountant ensures financial accuracy and compliance. Cash management, check signing, and sending are controlled by the accountant and Unit Director, ensuring proper financial controls.
- Invoice monitoring and tracking; inventory manager and accountant track invoices, ensuring timely payment and accurate financial records. Access to general accounting is authorized by the accountant, ensuring data security and integrity.

ii. Our analysis or comments on the results from this Test

After the reading of results, we were able to come up with the analysis below to evaluate the effectiveness of internal controls in the separation of tasks and detection of operational risks:

- We found out that the purchase request shows an internal control of a formalized process for initiating purchases but there is a weakness of lack of clarification on

validation criteria and processes when initiating the request to be approved hence we detected an operational risk.

- In the validation of the request we observed the involvement of several levels of management to ensure the relevance of the request but there is likely to be a risk of delays since the authorizations require a complex hierarchy.
- In the inventory verification we observed that there is an internal control of integration of stock control into the purchasing process to avoid overstocks or shortages but there is likely to be an operational risk of conflict of interest if the store manager is involved in the selection of suppliers.
- In the supplier selection we observed an internal control of involvement of several parties to ensure the relevance and quality of suppliers but there is likely to be an operational risk of lack of coordination between the different parties involved.
- In the making of the order we found an internal control of separation of tasks whereby there is a clear assignment of responsibilities to a single individual.
- In order authorization we observed an internal control of double verification by the management controller and the unit director to ensure compliance but there is likely to be an operational risk of delays if authorizations are complex and require several levels of validation.
- In reception we noticed an internal control of involvement of multiple parties to ensure accurate deliveries but there is likely to be an operational risk of confusion about the exact responsibilities during reception.
- In comparison of invoices we observed an internal control of multiple controls to avoid billing errors but there is a possibility of overlapping responsibilities between the inventory controller and other individuals in logistics service.
- In accounting entry, we observed that it is assigned to a specific individual to ensure consistency hence showing an internal control of separations of tasks and there is likely to be an operational risk of manipulation of entries since the verification process is insufficient because it is only done by one individual.

These procurement operations involve multiple checkpoints and roles, ensuring transparency, accountability, and compliance. Collaboration among different departments improves decision-making and risk management. Financial controls such as invoice tracking, reconciliation, and authorization ensure effective cost management and fraud prevention. Although many aspects of the purchasing process are well structured with multiple controls, there are potential risks related to the complexity of the validation processes, the distribution of responsibilities and the coordination between the different parties involved.

iii. Our Recommendations/Conclusion on the results from this Test

Since we observed some weaknesses and operational risks in the purchasing cycle, we give the company the following recommendations to improve the problems in separation of tasks during the purchasing process.

- In the purchase request process, we recommend to clearly define the validation criteria and processes for purchase requests, to avoid ambiguity and reduce the weakness of lack of clarification on validation criteria and processes when initiating a purchase request.
- We recommend the company to simplify the authorization hierarchy and the validation process to minimize delays. Clearly communicate the priorities and objectives to all involved parties to reduce conflicting perspectives and ensure timely validation during the validation of the request.
- We recommend the company to ensure that the store manager's involvement in supplier selection does not compromise the integrity of the process. Implement checks and balances to reduce the risk of conflict of interest, such as oversight by a neutral party or periodic review of supplier selection decisions during the inventory verification.
- We recommend the company to improve communication channels between supplier selection and order execution stages to ensure alignment and minimize the risk of misinterpretation or delays. Implement standardized procedures for transferring supplier information and order details to minimize errors during order execution.
- We recommend the company to simplify the authorization process to minimize delays and streamline validation. Consider implementing automated approval systems or delegation of authority to reduce the time and effort required for authorization during order authorization.
- We recommend the company to clarify responsibilities during reception by establishing clear guidelines and protocols. Implement training programs to ensure all involved parties understand their roles and responsibilities, reducing the risk of confusion and errors during the reception process.
- We recommend the company to define clear boundaries and responsibilities between the inventory controller and the individuals in the logistics service to avoid overlapping duties. Implement regular reconciliation processes to identify and minimize the risk of billing errors during comparison of Invoices.
- We recommend the company to strengthen verification processes to prevent manipulation of entries. Implement segregation of duties and periodic audits to ensure consistency and accuracy in accounting entries, reducing the risk of fraudulent activities during the accounting entry.

The task analysis grid indicates that A.P.M.C Unité Agglo Béton has a fairly defined separated set of functions within the purchasing cycle, ensuring strong internal controls and accountability. Through our verification, we confirmed that tasks such as request initiation, inventory verification, supplier selection, order placement, and invoice processing are managed by distinct roles with clear responsibilities. This structured approach minimizes risks of fraud and errors, improves decision-making, and ensures compliance. However, operational risks such as delays in validation processes and potential conflicts of interest in supplier selection were noted which have made us give some recommendations to the company. In our next part of the preliminary evaluation we carried out a survey using a closed internal control questionnaire.

b. Internal control questionnaire

The questionnaire was another tool we used to do the preliminary evaluation. The Internal Control Questionnaire we used is a closed-ended questionnaire with binary measures that involved responses to questions requiring a "Yes", "No" or "NA" response (NA: Not Applicable). It helped us to find the strong and weak points of internal control system in the procurement procedure which helped us to identify the operational risks in this company. We distributed 10 copies of the questionnaire to the different workers involved in the procurement process and after we evaluated their multiple responses with the SPSS software to get the final response we used in the questionnaire in the annexe. For our work which is focused on the purchasing function, we developed a questionnaire to enable us to ensure that:

- purchase requisitions are properly authorized and justified;
- purchase orders are accurately prepared and approved; goods/services received are accurately inspected, and recorded;
- invoices are accurately processed and matched with purchase orders and goods received note;
- payments are made only for approved purchases;
- purchasing transactions are accurately recorded in the accounting system.

Below is the ICQ we use to do the preliminary evaluation

Table 9: Internal Control Questionnaire

I.C.Q for internal control assessment	**Yes**	**No**	**N / A**	**COMMENT**
GENERAL INFORMATION ABOUT THE INTERNAL CONTROL SYSTEM				
GENERAL ORGANIZATION OF THE COMPANY				
Is there a company organizational chart and is it disseminated, applied and recognized?	✓			
Are the functions correctly defined for each task?		✓		
Is there an internal manual procedure?	✓			

If so, is it regularly updated by authorized persons and distributed?	✓			
Are human and material resources adapted to needs?	✓			
• Does your company have clear policies and procedures for the purchasing cycle and operational risk management? • Are these policies and procedures documented and accessible to all affected employees?	✓ ✓			
INTERNAL CONTROL DIRECTORATE				
Is the internal control department directly attached to general management?	✓			
Do service personnel receive appropriate training?	✓			
Does the department use appropriate working methods? (Work programs, well-kept records, etc.)?	✓			
Can the internal control department have access to all the services, documents, etc. it wants?	✓			
Are the reports from the internal control department followed?	✓			
Are there strong family ties between members of the internal control department and members of other departments in the company?		✓		
PURCHASES – SUPPLIER				
INTERNAL CONTROL OBJECTIVES				
Are the separations of functions sufficient?		✓		
Are all company purchases (materials and services)correctly authorized and accounted for?		✓		
Are all recorded purchases correctly valued and do the recorded purchases correspond to the company's actual expenses?	✓			
Are these expenses made in the interest of the company and in accordance with its purpose? ?	✓			
Are all debts related to goods and services received recorded in the correct period?	✓			
STRUCTURE OF THE PURCHASING DEPARTMENT				

Is there a purchasing service within the company?	✓			
Is the purchasing service independent of other departments?	✓			
Are purchasing structure staffs periodically subjected to a morals survey?		✓		
EXPRESSION OF PURCHASING NEEDS				
Are purchase requests generated and approved?	✓			
Is a purchasing budget established and does each requesting department have a forecast spending budget?	✓			
Are purchases of goods or services ordered solely on the basis of purchase requisitions established by authorized individuals?	✓			
CHOICE OF SUPPLIERS				
Are suppliers evaluated?	✓			
Is there a list of supplier evaluation elements known to buyers based on: technical quality, timeliness, competitiveness, etc.?		✓		
Is there a distinction between: local suppliers and foreign suppliers?	✓			
Is there a list of approved suppliers for routine purchases? If yes, is it: • Approved by a manager? • Regularly updated?		✓		
Is there a supplier file that is referred to when choosing the supplier?		✓		
Does a person independent of the purchasing department sometimes check the criteria for choosing suppliers and the validity of the accepted conditions?		✓		
ORDERS TO SUPPLIERS				
Is there a system to automatically trigger orders when stocks reach a minimum quantity?		✓		
If yes, have the minimum quantities been revised regularly according to actual manufacturing needs?		✓		
Are orders for goods or services not made solely on the basis of purchase requests established by authorized persons?	✓			

Are purchase orders generated and approved?	✓			
Are purchase orders systematically generated?		✓		
If yes are they • Pre-numbered? • Established in quantity and value? • Signed by the unite director, in view of the purchase request?	✓			
Does the system allow you to know at any time which orders have not yet been delivered, which have been partially delivered, which have been finalized and which have been cancelled?	✓			
RECEIPT OF GOODS AND SERVICES				
Is there a reception service?	✓			
Is the goods received note issued when the goods are received?	✓			
Are goods received reconciled to purchase orders with respect to: • Quantities? • The quality?	✓			
PAYMENT				
Is the invoice only paid upon receipt of a payment order signed by the relevant manager and the original invoice?	✓			
Are the goods received matched in quantity and quality?	✓			
RECEIPT OF SUPPLIER INVOICES				
Is there control to ensure that all invoices and credit notes received are recorded in the purchasing journal and individual supplier accounts?	✓			
Are the originals of invoices and credit notes identified using an “ORIGINAL” stamp?	✓			
Are invoices and credit notes sent directly by the mail service to accounting?	✓			
Does the accounting department assign a chronological order number to invoices and credit notes received before transmitting them to the people responsible for verifying them?	✓			
If so, does it keep track of these numbers to track the return of invoices and restart the affected service?	✓			

Are duplicate invoices and credit notes cancelled by affixing a "duplicate" stamp?		✓		
ACCOUNTING				
Is the recording of duplicates prohibited or subject to special authorization?			✓	
Are registered invoices and credits cancelled to avoid double registration?		✓		
Is a reconciliation carried out between invoices and credit notes, receipts and receipts and return or dispute vouchers?	✓			
Are original invoices cancelled after payment?		✓		
Is the payment order established after approval of the various controls?	✓			
JUSTIFICATION OF BALANCES				
Is a supplier balance sheet drawn up regularly?	✓			
Is its total reconciled to the collective account?	✓			
Are the liability adjustment accounts regularly analysed?	✓			
MONITORING DISPUTES				
Does the person responsible for claiming the goods ensure that they receive all return or claim vouchers (regardless of their origin)?	✓			
Is a credit note request established for each dispute?		✓		
Are un received assets regularly claimed?	✓			
Does the procedure for monitoring credits receivable include credits for discounts or contractual rebates?		✓		

i. Our Analysis from the Questionnaire

After finding the final responses to the questionnaire we noticed some strong and weak points in the internal controls used in the procurement procedure.

Strong points of the system

We noticed the following strengths below from the questions we asked which confirmed the use of the internal controls effectively in the purchasing procedure:

- In the general organisation of the company, the company has an organizational chart and internal manual procedures which suggests a structured approach to operations, the human and material resources are adapted to needs.

- In the internal control directorate, the control department is directly attached to general management, which has appropriate access to services and documents hence facilitating oversight.

- Personnel receive appropriate training and use suitable working methods indicating a well-established control framework.

- There are no family ties between department members and other departments and this indicates independence.

- In the purchases internal control objectives, budgets are established for each department and debts related to goods and services are appropriately recorded which indicates financial control.

- In the structure of the logistic service, we observed that the purchasing department is independent from other departments, which promotes autonomy and oversight and it is also crucial for impartial decision-making. We also observed that the purchase requests are generated and approved, and budgets are established for forecasting spending.

- In the expression of purchasing needs, purchase requests are generated and approved hence ensuring proper authorization and also reflects a structured approach to procurement.

- We also observed that budgeting processes are put in place which ensures financial discipline.

- In the choice of suppliers, we noticed that when choosing suppliers, the company evaluates suppliers which promotes quality and performance assessment. We observed a distinction between local and foreign suppliers hence potentially diversifying risks which is a way of minimising them.

- During the reception of goods and services, we noticed that a reception service exists which has adequate processes put in place for receiving goods hence ensuring proper handling of received goods. GRNs are issued and reconciled with purchase orders and this ensures accuracy in inventory management.

- During the reception of supplier invoices, we observed that the presence of controls is in place to ensure accurate recording of invoices and credit notes hence preventing financial discrepancies.

- During payment, we observed that payments are made upon reception of a payment order signed by relevant managers and original invoices hence indicating appropriate authorization and documentation. There's control to ensure all invoices and credit notes received are recorded hence preventing financial deviations.

- During the accounting process, we observed the presence of reconciliation between invoices, receipts, and vouchers, promoting accuracy. Also supplier balance sheets are regularly drawn up and reconciled which ensures financialintegrity.

- When monitoring disputes, we observed the presence of persons responsible for claiming goods and to ensure they receive return or claim vouchers which promotes resolution. They also claim for un received assets regularly hence ensuring accountability**.**

- In the purchases - supplier internal control objectives, budgets are established for each department and debts related to goods and services are appropriately recorded which indicates financial control.

Weak points of the system

We noticed the following weaknesses below from the questions we asked which didn't confirm the use of the internal controls effectively in the purchasing procedure and cycle:

- In the general organisation of the company, we noted that the functions for each task are not correctly defined hence indicating a gap in organizational clarity which is an indication of potential confusion or inefficiencies. Although there are clear policies and procedures we observed that separations of functions in purchases are insufficient which is a potential operational risk of fraud or errors.

- In the internal control directorate, we noticed that despite the fact that reports are followed, the weaknesses in separations of functions and authorization for purchases indicate potential gaps in control effectiveness.

- In the purchases - supplier internal control objectives, we noticed that separations of functions are insufficient hence indicating a potential risk of fraud or errors in purchases.

- We also observed that not all company purchases are correctly authorized and accounted for hence raising concerns about compliance and financial accuracy.

- In the structure of the purchasing service, we observed that morals surveys are not conducted among purchasing service staff members, which could be important for

ethical oversight hence raising concerns about ethical considerations within the service.

- In the making of the order, we noticed the absence of a system to automatically trigger orders when stocks reach minimum levels, indicating potential stock outs or inefficiencies. Purchase orders are not systematically generated and tracked, which may lead to deviations and delays.

- When choosing suppliers, we observed that while suppliers are evaluated, there is a lack of a standardized evaluation process hence potentially leading to inconsistent supplier selection.

- We also noted the absence of a list of approved suppliers for routine purchases which indicates potential inefficiencies in supplier management.

- When placing orders to suppliers, we noticed that purchase orders are not systematically issued and also the lack proper documentation which indicates a deficiency in control hence suggesting potential control gaps and risks of errors or fraud. Lack of systematic order issuance and pre-numbering of purchase orders indicates potential control gaps and risks of errors or fraud. During the reception of goods and services, we observed that the controls for matching goods received with invoices are incomplete which may lead to payment errors or deviations.

- During payment, we observed that there is a lack of systematically issued receipts for deliveries hence impacting reconciliation and audit trails.

- During the accounting process, we observed that there is a lack of control over duplicate recordings which may lead to errors or fraudulent activities.

- We also observed that the original invoices are not cancelled after payment which could potentially lead to confusion or duplicate payments.

- When monitoring disputes, we noticed a lack of credit note requests for disputes which may hinder proper resolution and tracking of issues. We also observed a lack of monitoring for credits receivable which may result in lost revenue or unclaimed discounts.

c. Analysis of the preliminary evaluation of internal control in the purchasing cycle

After having used the internal control tools of the task grid analysis and the closed internal control questionnaire we found the following strong and the weak points in the internal control system during the procurement procedure.

i. Strong points

- Establishment of the purchase requests based on stock sheets. Purchase requests are made on the basis of stock sheets after the store manager verifies the availability or no availability of the needed stock by the requester. It allows the company not to over or under order the material needed hence a good control in the system during the procedure.

- Signing of the purchase request by the store manager, the requester, the purchasing manager, the unit director and it being approved. This shows a good internal control in the system of authorization which allows the company to avoid the operation risk of fraud, error and un necessary purchases without approval. It ensures that all purchases are properly authorized, budgeted, and documented, thereby supporting the smooth operation of an organization

- The Store manager triggering purchases when stock reaches the minimum level is essential for maintaining a balanced inventory, ensuring efficient operations, controlling costs, and minimizing risks associated with stock outs or overstocking in the company.

- Establishment of the purchase order based on purchase requests after the purchase manager receives the purchase request and compares it with the purchase budget. This shows an internal control of budgetary control in the system during the procedure, ensuring accountability, reducing risks and errors, and promoting operational efficiency.

- Existence of reconciliation between purchase order and goods received notes. This technique makes it possible to avoid non-conformity of the ordered goods and the delivered goods.

- Use of the comparative tables of offers to compare suppliers in the procurement process helps in optimizing costs, ensuring quality, managing risks, fostering innovation, and building strong supplier relationships.

- Existence of signatures and stumps on documents used in the procurement procedure shows an internal control of authorization of documents. It also ensures legal compliance, promotes accountability, managing risks, and maintaining consistency during the procedure.

- Establishment of goods entry ensure smooth operations and fosters a transparent and accountable procurement process which shows an internal control of proper documentation after the reception of goods.

- In the choice of suppliers, we noticed that when choosing suppliers, the company evaluates suppliers which promotes quality and performance assessment. We

observed a distinction between local and foreign suppliers hence potentially diversifying risks which is a way of minimising them.

- During the reception of supplier invoices, we observed that the presence of controls is in place to ensure accurate recording of invoices and credit notes hence preventing financial discrepancies.

- During payment, we observed that payments are made upon receipt of a payment order signed by relevant managers and original invoices hence indicating appropriate authorization and documentation. There's control to ensure all invoices and credit notes received are recorded hence preventing financial deviations.

- During the accounting process, we observed the presence of reconciliation between invoices, receipts, and vouchers, promoting accuracy. Also supplier balance sheets are regularly drawn up and reconciled which ensures financialintegrity.

- When monitoring disputes, we observed the presence of persons responsible for claiming goods and to ensure they receive return or claim vouchers which promotes resolution. They also claim for undeceived assets regularly hence ensuring accountability**.**

ii. Weak Points

We have identified some areas of weakness that we aim to address using the problem disclosure and analysis sheets (FRAP). Feuilles des Révélation et d'Analyse des Problèmes (FRAP) serves as a straightforward and effective tool for analyzing and documenting dysfunctions within the purchasing cycle's internal control evaluation. It ensures clarity in analyzing and documenting dysfunctions, minimizing confusion between different aspects of the problem, such as causes and consequences. FRAP's effectiveness lies in its representation through five branches:

- Observation: Identifying dysfunctional areas.
- Problem statement: Summarizing the identified dysfunctions.
- Causes: Explaining the underlying reasons for the problems.
- Consequences: Outlining the resulting effects.
- Recommendations: Providing solutions to address both the causes and the problems.

This structured approach facilitates comprehensive evaluation and resolution of internal control issues, enhancing the effectiveness of our overall system.

Table 10: Problem disclosure and analysis sheets number 01

Problem	Insufficient separation of duties in the purchasing process.
Observation	During the making of the order there is concentration of purchasing authority in a single individual who is the purchasing manager. The

	involvement of the store manager in supplier selection.
Causes	Lack of clear definition of roles and responsibilities within the purchasing cycle. Purchasing manager makes orders and buys the purchases instead of the buyer. Store manager triggers orders and is also seen in the evaluation committee of suppliers.
Consequences	Risk of fraud, errors, or abuse of power.
Recommendations	We recommend the company to clearly definition of roles and responsibilities within the purchasing cycle to reduce risk of fraud, errors, or abuse of power.

Source: realised by ourselves based on the weaknesses from the preliminary evaluation

Table 11: Problem disclosure and analysis sheets number 02

Problem	Purchase documents are not systematically made and triggered, they are manually made
Observation	Purchase request and orders are manually made during the procedure.
Causes	Lack of automation in the procurement system and lack of training of the workers in the logistic service.
Consequences	Risk of errors, losing documents, slow communication leading to delays in placing orders hence leading to stock outs and limited traceability
Recommendations	We recommend the company to adapt automation in the procurement cycle to systematically make and trigger request and orders. To also consider training of the workers in the logistic service.

Source: realised by ourselves based on the weaknesses from the preliminary evaluation

Table 12: Problem disclosure and analysis sheets number 03

Problem	Lack of a formal list of evaluation elements like technical quality, timeliness and competitiveness during supplier evaluation.
Observation	Suppliers are chosen basing only on the cost quality meaning the supplier who offers the affordable or lower prices ignoring the rest.
Causes	The company prioritizes cost savings over other important factors such as technical quality, timeliness, and competitiveness.
Consequences	Risk of quality variability and delays
Recommendations	We recommend the company to establish a formal list of evaluation elements such as technical quality, timeliness, and competitiveness and implement them during the evaluation of suppliers.

Source: realised by ourselves based on the weaknesses from the preliminary evaluation.

Table 13: Problem disclosure and analysis sheets number 04.

Problem	Complex validation processes
Observation	Purchase request is signed by the requester, the store manager, the purchase manager and director at different time levels
Causes	Involvement of several levels of management for the relevance of the purchase request
Consequences	Risk of delays and stock outs
Recommendations	We recommend the company to reduce on the bureaucracy by selecting the most relevant people during the authorisation of the purchase requests to reduce the risk of delays and stock outs.

Source: realised by ourselves based on the weaknesses from the preliminary evaluation.

Table 14: Problem disclosure and analysis sheets number 05

Problem	Insufficient standardization during the procedure
Observation	All structures of the company formulate their own supply requests forms
Causes	Lack of standard way of formulating a supply request form during the expression of the need.
Consequences	Risk of confusion and inefficiency
Recommendations	We recommend the company to establish a standard format for supply request forms.

Source: realised by ourselves based on the weaknesses from the preliminary evaluation

Table 15: Problem disclosure and analysis sheets number 06

Problem	There is no differentiation between paid and un paid documents
Observation	Original invoices not cancelled after payment
Causes	Absence of established procedures or guidelines within the accounting service
Consequences	Risk of duplicate payments leading to financial losses
Recommendations	We recommend the company to established procedures or guidelines within the accounting service

Source: realised by ourselves based on the weaknesses from the preliminary evaluation

Table 16: Problem disclosure and analysis sheets number 07

Problem	Inadequate tracking of the goods received
Observation	Credit note request not established for each dispute
Causes	limited communication and coordination between services involved in the reception of goods and the one handling of supplier disputes
Consequences	Conflict between the company and the supplier which can damage the relationship between the buyer and supplier, leading to a loss of trust
Recommendations	We recommend the company to ensure sufficient communication and coordination between services involved in the receipt of goods and the one handling of supplier disputes. And to establish credit note requests for each dispute.

Source: realised by ourselves based on the weaknesses from the preliminary evaluation

The preliminary evaluation of the internal control system within the purchasing cycle we carried out revealed both strengths and weaknesses in the system. Strong points include the establishment of purchase requests based on stock sheets, thorough authorization processes, and diligent supplier evaluation criteria. However, we identified weaknesses such as insufficient separation of duties, manual document processing, and lack of standardized procedures pose risks of errors, delays, and potential financial losses. Recommendations to address these issues we recommended include clarifying roles and responsibilities, implementing automation, enhancing supplier evaluation criteria, streamlining validation processes, standardizing procedures, and improving communication and coordination. Addressing these weaknesses will fortify the internal control system, ensuring smoother procurement processes, minimizing risks, and fostering

stronger supplier relationships. Since we identified some strong points we need to verify their permanent application in our next part of the permanent test.

3.2.3.The Permanence Test

This test only concerns the strong points detected during the preliminary evaluation. The aim is to check whether the theoretical strengths are really applied permanently in the company. We used several purchase transactions like purchase orders, purchase requests, goods received note and the goods entry document and many others that have been fully processed using the studied procedures. Verification of these strengths must include evidence of the application of the procedures. Implementing a permanence test allowed an in-depth analysis of the effectiveness of the internal control measures implemented to minimize purchasing operational risks. To do this, we randomly chose 8 purchase transactions that have been fully processed using the studied procedures, and then have confirmation or no confirmation of the theoretical strengths identified during the preliminary evaluation.

a. Test on purchase requests

We will have to ensure that the purchase requests are established on the basis of the stock sheets and that these are approved by the requester, the store manager, purchasing manager and the Director of the unit. For this reason, we chose some local purchase transactions accompanied by their supporting documents. For each purchase request, we will check:

- The existence of a stock sheet.
- The signature of the requester, store manager, purchasing manager and the Director of the unit.

Table 17: Test on purchase requests

			Purchase requests				Existence of a stock sheet
NO	ELEMENT	QTY	Signed Requester	Signed PM	Signed SM	Signed DU	
00361	Gas Oil	8000	✓	✓	✓	✓	✓
00334	Cement	200	✓	✓	✓	✓	✓
00346	SKODA Vehicle Timing Chain Kit	1	×	✓	×	✓	✓
001363	Sand 0/3 rendered Gravel 3/8 rendered Gravel 8/15 rendered Sand rendered	1000 1200 70T 60T	✓	✓	×	✓	✓
000341	Disjointed switch 1 post G4063A chain B12 mechanics Attach Rapid B12B1	01 05 05	×	✓	✓	✓	✓
000531	Gray Cement	80 Tons	✓	✓		✓	✓
0000348	Carrot Game	1	✓	✓	✓	✓	✓
000352	Tourniquets Hydrophilic cotton	04 04	✓	✓	✓	✓	✓

Source: Produced by ourselves from documents provided by the company.

✓: What we were looking for has been found;
×: What we were looking for was not found.

Our Analysis and recommendations

The results of this test verifies a strong point because of all the purchases requests used, only 3 out of 8 were not signed by the individuals for example the requester and the store manager. And all the 8 were accompanied by stock sheets file which verified the availability or non-availability of the item needed. All purchase requests were signed and approved by the unit director meaning there are properly approved by the director.
Therefore, we can confirm that the strong points detected during the preliminary evaluation which concern the above test are all confirmed. This means that these theoretical strengths are verified in practice. W**ere commend t**he enterprise to ensure that all the responsible individuals responsible sign the purchase request to improve on the authorization and reduce the operational risks of fraud.

b. Test on Purchase orders and payment method

We selected some purchase Orders (PO) made on the basis of the above purchase requests and the payment method chosen. Thus, the evaluation of the procedures relating to this test must provide assurance that:

- The POs are triggered on the basis of the PRs;
- Payment was made by check.
- The POs are signed by the director of the unit and supplier

Table 18: Test on Purchase orders and payment method

Purchase order				**Sign**	**Sign**	**Payment choice**
NO.	**Element**	**Quantity**	**D.A.**	**DU**	**SU**	
000663	Gas Oil	2000	✓	✓	✓	check
000659	Cement	20	✓	✓	✓	check
000640	Chain kit	2	✓	✓	✓	credit
0024	Sand 0/3 rendered Gravel 3/8 rendered Gravel 8/15 rendered	720.94 176.16 29.86	✓	✓	×	check
000651	Mechanical Chain B12 Attach Rapid B12B1	05 ml 05U	✓	✓	✓	credit
000921	Gray Cement	20	✓	✓	✓	credit
000644	Carrot Game	1	×	✓	×	check
000649	Tourniquets Hydrophilic cotton	04 04	✓	✓	✓	check

Source: Produced by ourselves from documents provided by the company.

✓: What we were looking for has been found;
×: What we're looking for was not found.

Our Analysis and recommendations

The results of this test verifies the strong point because of all the purchases orders used, only 2 out of 8 were not signed by the supplier and one was not made on the basis of a purchase request. the rest of the purchase orders were made basing on the purchase requests and were also signed by the director of the unit and the supplier.
The payment method mostly used is the check showing that the company has long-term sustainability and success hence reduced financial risk.
All purchase orders were signed and approved by the unit director meaning there are properly approved.
Therefore, we can confirm that the strong points detected during the preliminary evaluation which concern the above test are all confirmed. This means that these theoretical strengths are verified in practice.

We recommend the enterprise to ensure that supplier has signed on the purchase order to avoid the risk of delays. The enterprise should ensure that the purchase orders are made on the basis of purchase requests to avoid the risk of over and under ordering of the purchases.

c. Test on Goods Received notes (GNR)and their reconciliation with the purchase orders (PO).

We selected some Goods Received notes with their purchase orders. Thus, the evaluation of the procedures relating to this test must provide assurance that:

- The quantity and item in the purchase order is the same in the goods received notes.
- The goods Received notes are reconciled with the purchase orders
- The goods Received notes are signed by the supplier and the store manager

Table 19: Test on goods received notes

Goods received Note				**PO/GRN reconciliation**	**Sign**	**Sign**
NO.	**ELEMENT**	**QNTY**	**D.A.**		**SU**	**SM**
001794	Gas Oil	2000	✓	✓	✓	✓
001791	Cement	20	✓	✓	✓	✓
001788	Chain kit	1	✓	✓	✓	✓
	Sand 0/3 rendered Gravel 3/8 rendered Gravel 8/15 rendered	720.94 176.16	✓	✓	✓	✓

		29.86				
001792	Mechanical Chain B12 Attach Rapid B12B1	05ml 05U	✓	×	✓	✓
001785	Gray Cement	20		×	✓	✓
001789	Carrot Game	1	✓	✓	✓	✓
001790	Tourniquets Hydrophilic cotton	04 04	✓	✓	✓	✓

✓ : What we were looking for has been found;

×: What we were looking for was not found

Our Analysis and recommendations

The results of this test verify the strong point because of all the goods received notes used, all of them were signed by the store manager and supplier which confirms that the goods were received. The purchase request 0024 does not have goods received note because its supplier did not sign it meaning there was not purchase made. There is no reconciliation between the PO and GRN which shows there was no quality and quantity control between the goods received and the goods ordered. Therefore, we can confirm that the strong points detected during the preliminary evaluation which concern the above test are all confirmed. This means that these theoretical strengths are verified in practice.

We **recommend** the enterprise to ensure to make reconciliation between the goods received and the goods ordered to ensure quality and quantity control to avoid reception of low quality goods.

d. Test on Goods entry document

We selected some Goods entry documents. Thus, the evaluation of the procedures relating to this test must provide assurance that:

- The quantity and item registered by the company.
- The goods entry is signed by the purchase manager, store manager, inventory manager.

Table 20: Test on goods entry document

No. Good entry	ELEMENT	QUANTITY	Article referenced	Signed by PR	Sign by SM	Sign by IM
000042	Diesel fuel	2000	31104101754	✓	✓	✓

000039	Cement	20	31313001796	✓	✓	✓
000038	Chain kit	1	31263004862	✓	✓	✓
310507	Sand 0/3 rendered Gravel 3/8 rendered Gravel 8/15 rendered	720.94 176.16 29.86	31310001745	✓	✓	✓
000036	Mechanical Chain B12 Attach Rapid B12B1	05ml 05U	×	✓	✓	✓
000160	Gray Cement	20	×	×	×	✓
000032	Carrot Game	1	×	✓	✓	✓
000034	Tourniquets Hydrophilic cotton	04 04	×	✓	✓	✓

Source*:* Produced by us from documents provided by the company.

✓: What we were looking for has been found;
×: What we were looking for was not found

Our Analysis and recommendations

The results of this test verifies the strong point because of all the goods entry document used, 1out 8 was not signed by the purchase manager and the store manager and most of the item lack article reference numbers which show poor tracking and recording of the received goods. The inventory manager signs on all the goods entry document which shows quality and quality control of the goods received. Therefore, we can confirm that the strong points detected during the preliminary evaluation which concern the above test are all confirmed. This means that these theoretical strengths verified in practice.
We **recommend** the enterprise to ensure that the goods entry document should be referred to other documents like the invoices with an article reference to ensure proper tracking and recording of the received goods.

In conducting the permanent test across various aspects of enterprise A.P.M.C.'s procurement process, several strengths and weaknesses were identified. Strong points were confirmed in terms of authorization and approval processes, with purchase requests and

orders consistently signed and approved by relevant individuals, notably the unit director. However, areas for improvement were also highlighted, such as ensuring all responsible parties sign purchase requests and orders to mitigate operational risks, and implementing reconciliation processes between goods received notes and purchase orders to enhance quality and quantity control. Additionally, measures should be taken to improve tracking and recording of received goods, including referencing invoices with article numbers on goods entry documents. This test led us to the final evaluation in the next part.

3.2.4.Final evaluation of internal control system in the purchasing cycle

In this final evaluation we did the analysis of operational risks associated with the internal controls within the purchasing cycle. The final evaluation of the internal control system in the purchasing cycle brings includes the analysis operational risks to identify potential operational risks, providing recommendations to improve control measures and improve the management of operational risks, and presenting an evaluation report that summarizes our findings and suggestions.

a. Analysis of operational risks

We used the simulation method with scenario analysis approach to do the analysis of these operational risks, in this simulation method we mentally envisioned different scenarios based on the weaknesses in internal control system in the purchasing cycle. In order to do this, we considered various factors such as the questionnaire, organizational structure, policies, procedures, and potential weaknesses with which we will be able to simulate different outcomes and their potential impacts. This helped us in the identification of areas for improvement and developing effective strategies to reduce risks and improve internal controls in the company.

We are going to simulate two scenarios: one from the perspective of the company's management and the other from our position to come up with the comparative analysis in order to identify the operational risks in the company A.P.M.C Unité Agglo Béton

Table 21: Table showing the simulation of the two scenarios

Scenario 1: Company management perspective	**Scenario 2: Our position perspective**	**Comparative analysis (operational risks identified)**
Organizational chart and internal manual procedures are in place, but functions aren't correctly defined for each task.	When tasks are not clearly defined, multiple employees can assume it is someone else's responsibility. Certain tasks can be ignored or assigned to the wrong person. Lack of segregation of duties since several tasks might be assigned to one person.	This can lead to the risk of delays and confusion, affecting purchase timelines and quality. Risk of substandard quality of work, and increased error Risk of fraud, errors and asset misappropriation
Company purchases are not always correctly authorized and accounted for.	Employees, particularly those with access to company funds or procurement systems, may occasionally make purchases without proper authorization. Employees can make inaccurate financial reporting which can distort budgeting and forecasting efforts.	Risk fraud Risk of financial losses and insufficient planning
There is no a system to automatically trigger orders when stocks reach minimum levels hence purchase orders are not systematically generated and tracked	If stock levels aren't monitored closely or if manual processes are delayed or overlooked, the company may run out of essential items Human error in estimating demand or failure to update inventory records accurately can lead to excessive inventory levels.	Risk of inventory shortages Risk of over ordering or over stocking

Suppliers are evaluated, but there's no formal list of evaluation elements.	Different evaluators may prioritize different criteria which can lead to inconsistent evaluations across different suppliers, making it difficult to compare and select the most suitable ones. Suppliers may not understand the expectations or requirements fully which can lead to difficult in contract negotiations	Risk of quality variability due to inconsistent quality standards being applied to suppliers Risk of legal and compliance Issues due to ambiguous or incomplete contractual agreements.
Original invoices not cancelled after payment	Not cancelling invoices after payment can lead payment of the same invoice more than once Difficulty in tracking which payments have been made and which are still outstanding.	Risk of duplicate payments leading to financial losses Risk of confusion in the accounting records resulting in inaccurate financial statements and reporting errors.
Credit note request not established for each dispute	Conflict between the company and the supplier which can damage the relationship between the buyer and supplier, leading to a loss of trust	Risk of conflict, risk of errors and risk of reputational damage
All structures formulating their own supply requests	Different services might have varying ways of formulating the supply form. Different information can be provided by different requesters making it difficult for the store manager to accurately interpret their requests.	Risk of confusion and inefficiency Risk of inconsistency

Source: Realised by ourselves.

b. Recommendations

After identifying the operational risks in the internal controls of the purchasing cycle, we recommend the company to do the following in order to improve the management of operational risks;

- Clearly define task functions; ensure that each task within the purchasing cycle is clearly defined, with responsibilities assigned to specific individuals or services. This is to reduce the likelihood of tasks being overlooked or assumed to be someone else's responsibility hence management of the riskof delays and confusion affecting purchase timelines and quality.

- Segregation of duties; implement a system where tasks are segregated among different employees to prevent any single individual from having too much control over a process. This is to reduce and manage the risk of errors, fraud, and asset misappropriation.

- Authorization procedures; establish clear procedures for authorizing purchases, including approval levels based on the amount and nature of the purchase. This is to help prevent unauthorized purchases and ensures proper accountability. Therefore, the company will be able to manage operational risks of fraud, risk of financial losses and insufficient planning.

- Automated purchase orders; implement an automated system to trigger purchase orders when stock levels reach minimum thresholds. This updatesthe procurement process, reduces delays, and minimizes the risk of stock outs hence management of operational risks.

- Supplier evaluation criteria; develop a formal list of evaluation criteria for assessing and selecting suppliers. Ensure consistency in evaluation across different evaluators to facilitate objective decision-making and select the most suitable suppliers to manage the risk of supplier disruptions and risk of quality variability

- Contractual clarity; ensure that contractual agreements with suppliers are comprehensive and unambiguous, clearly outlining expectations, requirements, and legal terms. This is to reduce and manage the risk of disputes, legal issues, and quality variability.

- Invoice management; establish procedures for cancelling original invoices after payment to prevent duplicate payments. Implement systems for tracking payments and outstanding invoices to maintain accurate financial records and prevent errors. This is to manage the risk of duplicate payments and confusion in accounting.

- Credit note requests; develop a process for handling disputes with suppliers, including the establishment of credit notes. This facilitates resolution of conflicts, maintains supplier relationships, and reduces the risk of reputational damage.

- Standardized supply requests; implement standardized procedures for formulating supply requests across all departments or services. This ensures consistency in information provided to the procurement team, reducing confusion and inefficiency hence management of risk of confusion and inefficiency.

c.Evaluation report

In our last step in the final evaluation of the internal control system, we made an evaluation report which summarised our findings and analysis from the evaluation of internal control system in the purchasing cycle including compliance test, preliminary evaluation, permanent test and analysis of operational risks. Through detailed examination and analysis, this report seeks to identify strengths, weaknesses, and areas for improvement within the internal control system and proposes recommendations to the company A.P.M.C Unité Agglo Béton to improve and manage the weaknesses and operational risks in the system.

Evaluation report on internal control in the purchasing cycle

This evaluation report presents the findings and recommendations resulting from our evaluation of the internal controls in the purchasing cycle of A.P.M.C Unité Agglo Béton. The objective of this evaluation was to know if the evaluation of the internal control system in the purchasing cycle could help us to identify operational risks and reduce these risks or improve the management of operational risk.

In this evaluation we reviewed documents, carried out interviews with individuals and also did testing of control procedures.

The scope included the entire purchasing cycle, from the initiation of purchase requests to the recording of transactions. This evaluation report includes the summary of the finding analysis of our evaluation about the following:

- Awareness of the company
- Compliance test
- Preliminary evaluation of internal control system
- Permanent test
- Final evaluation of internal control system

Awareness of the company

The awareness step is crucial in evaluating internal controls. We used a questionnaire, interviews, and document analysis to understand company activities, controls, and risks. This enabled us to have knowledge about the company and verify the presence of purchasing procedures, internal controls, and mechanisms for safeguarding assets, compliance, and efficiency.

Compliance test

We carried out a compliance test on A.P.M.C Unité Agglo Béton's procurement operations to verify the existence of an internal control system. The compliance test involved using the following documents; the purchase request, purchase order, delivery note, and the reconciliation of invoices, goods received notes, and purchase orders. The test confirmed that an internal control system is indeed in place but also highlighted weak areas needing improvement for example in authorization controls and documentation accuracy and many others.

Preliminary evaluation of internal control system

The preliminary evaluation of the internal control system within the purchasing cycle we carried out involved the use of the questionnaire and the task analysis grid. We obtained both strengths and weaknesses in the system. Strong points include the establishment of purchase requests based on stock sheets, thorough authorization processes, and diligent supplier evaluation criteria. However, we also identified weaknesses such as insufficient separation of duties, manual document processing, and lack of standardized procedures pose risks of errors, delays, and potential financial losses.

Permanent test

In the permanent test, we identified several strengths and weaknesses. We confirmed the application of some strong points in terms of authorization and approval processes, with purchase requests and orders consistently signed and approved by relevant individuals, such as the unit

director. We also found areas for improvement and gave recommendations such as ensuring all responsible parties sign purchase requests and orders to reduce operational risks, and implementing reconciliation processes between goods received notes and purchase orders to enhance quality and quantity control.

Final evaluation of internal control system

The final evaluation of the internal control system in the purchasing cycle we used the simulation method with the scenario approach to do the analysis these operational risks, also presented recommendations to improve the management of operational risks.

With the simulation method, we simulated two scenarios: one from the perspective of the company's management and the other from our position. Where we identified the following operational risks: Risk of substandard quality of work, and increased error; risk of fraud, errors and asset misappropriation; risk of financial losses and insufficient planning; risk of inventory shortages; risk of over ordering or overstocking; risk of quality variability due to inconsistent quality standards being applied to suppliers; risk of legal and compliance Issues due to ambiguous or incomplete contractual agreements; risk of duplicate payments leading to financial losses; risk of confusion in the accounting records resulting in inaccurate financial statements and reporting errors; risk of conflict, risk of errors and risk of reputational damage; risk of confusion and inefficiency; risk of inconsistency.

We provided the following recommendations to company to improve on the management of the above operational risks:

- We recommend the company to clearly define task functions by assigning specific responsibilities to individuals to prevent overlooked tasks to manage risks of delays and confusion in the purchasing cycle.
- We recommend the company to distribute tasks among different employees to minimize control by any one person to reduce risks of errors, fraud, and asset misappropriation.
- We recommend the company to set clear approval procedures for purchases to prevent unauthorized transactions and ensure accountability manage risks of fraud, financial loss, and poor planning.
- We recommend the company to use an automated system to trigger purchase orders at minimum stock levels to manage risks of delays, and minimizing stock outs.
- We recommend the company to develop formal criteria for assessing and selecting suppliers, ensuring consistent and objective evaluations to manage supplier disruptions and quality variability.
- We recommend the company to create comprehensive and clear supplier contracts to reduce disputes, legal issues, and quality variability.
- We recommend the company to implement procedures to cancel original invoices after payment and track payments and outstanding invoices to prevent duplicate payments and accounting errors.
- We recommend the company to establish a process for handling supplier disputes and credit note requests to resolve conflicts and maintain supplier relationships, reducing reputational risk.

- We recommend the company to standardize supply request procedures across departments to ensure consistency and reduce confusion and inefficiency in procurement.

This report represents the findings and recommendations resulting from our evaluation of the internal controls in the purchasing cycle. We appreciate the cooperation and assistance provided by the management and staff of the company A.P.M.C Unité Agglo Bétonthroughout the process.

We conclude that the internal control system is well designed and implemented though it requires some improvements to work on the key weaknesses and to improve the management of operational risks.

The final evaluation of Unité Agglo Béton's internal control system in the purchasing cycle revealed a comprehensive understanding of its strengths and weaknesses. From findings analysis of awareness of procurement procedures, compliance testing, preliminary evaluation, permanent testing, and simulation-based operational risk analysis, we have identified areas for improvement and provided recommendations to manage these operational risks.

Our comments on the evaluation report

In our last step in the final evaluation of the internal control system, we made an evaluation report which is a summary of our findings and analysis from the evaluation of internal control system in the purchasing cycle including compliance test, preliminary evaluation, and permanent test and analysis of operational risks. Some of our key positive aspects include:

- Our focus on operational risks in the purchasing cycle which is not so common yet the analysis of these plays a crucial role in a company's overall risk management.
- We analysed and identified a few operational risks and provided a few recommendations to improve the management of operational risks in the purchasing cycle of the company A.P.M.C Unité Agglo Béton.
- We used a simulation method with an approach of scenario analysis effective for someone without enough data and information to use the binomial method which requires alot of time and data. This method helped us in the analysis of operational risks.

With the above positive aspects, we also faced a few challenges and limitations which include:

- Lack of sufficient information and data which limited us in carrying out a deeper analysis of the operational risks.

Finally, the above evaluation report can serve as a valuable tool in the improvement of the management of operational risks the company A.P.M.C Unité Agglo Béton and to any other individuals such as fellow students for study purposes

In conclusion of this chapter three, which concentrated on the empirical findings and analysis of the internal control system within the purchase cycle of Unité Agglo Béton Company. We were able to examine, discuss, analyse, understand and evaluate the internal control system from awareness of the company, procurement procedure description, compliance testing, preliminary evaluation, permanent testing, to the final evaluation. From this evaluation we found strengths and weaknesses in the system. While the company has strengths in procedural transparency, diligent authorization processes, and supplier evaluation criteria, weaknesses such as manual documentation reliance, insufficient separation of duties, and lack of standardized procedures were identified. Recommendations to address these weaknesses include role clarification, automation implementation, standardization of procedures, and enhanced communication. These measures aim to improve the internal control system and manage operational risks effectively. In conclusion, this chapter provides a comprehensive understanding of the evaluation process used to identify and manage operational risks within Unité Agglo Béton's purchasing cycle, offering actionable recommendations for improvement.

GENERAL CONCLUSION

In conclusion, given that the aim of every profit making organization is to earn profit, stay in business for a long time, meet customers' demand and expectations, pay their debts when they fall due and satisfy the aims of stakeholders. In response to increasing competition, the rise of large corporations, and increasing operational risks, companies must concentrate on identifying key success factors to sustain and grow. An effective and efficient internal control system forms an important competitive advantage for every company, regardless of its size or the sector in which it operates. A good internal control system plays an important role in the reduction of the operational risks these companies may face. Operational risk management process also plays the same role. The internal control system is the set of guidelines, control mechanisms and administrative structure that are put in place by management to ensure the orderly and efficient conduct of the company's affairs. It is possible to design internal controls, implement them or even improve the controls in place so as to reduce operating risks and to ensure the protection of the company's assets as well as the accuracy, integrity and security of system resources.

The evaluation of internal control is the second phase in the audit mission and it constitutes a determining factor in the work of the statutory auditor. Having an obligation of means, the auditor formulates a motivated opinion on the regularity and sincerity of the annual accounts of a given company. The auditor's diligence is carried out on the basis of thousands of pieces of information. The aim is to be able to verify all the information exhaustively. But this is humanly and materially impossible, especially for a company like A.P.M.C Unite Agglo Béton whose accounting records thousands of lines of entries per year.

Through this study and internship, we got many lessons about internal control, management of operational risks and the purchasing cycle which helped us to respond to our research questions. We were able to briefly describe internal control, stated its components, its role, its implementation and its limits. We also defined the management of operational risks plus other concepts in relation to it not leaving out the purchasing cycle concept, definitions and other concepts about it. Our exploration of internal control system, operational risk management, and their integration shows that they significantly contribute to reducing risks within a company's purchasing cycle which confirms our **1st hypothesis**. This equipped us with the knowledge to understand the theoretical part of internal control and operational risk management, laying a solid foundation for our research.

We carefully studied a practical case relating to the Evaluation of the internal control system in the purchasing cycle of A.P.M.C Unité Agglo Béton. With this evaluation we were able to examine, discuss, analyse, understand and evaluate the internal control system procedure from awareness, procurement procedure description, compliance testing, preliminary evaluation, permanent testing, to the final evaluation. While the company shows strengths in procedural transparency, diligent authorization processes, and supplier evaluation criteria, weaknesses such as manual documentation reliance, insufficient

separation of duties, and lack of standardized procedures were identified. Through the use of a simulation method we were able to identify some operational risks such as risk of substandard quality of work, and increased error; risk of fraud, errors and asset misappropriation; risk of financial losses and insufficient planning; risk of inventory shortages; risk of over ordering or overstocking and others which confirms our **2rd hypothesis**.

We provided the following recommendations to company to improve on the management of the above operational risks:

- To clearly define and assign specific task responsibilities to prevent overlooked tasks and manage delays and confusion.
- Set clear purchase approval procedures to prevent unauthorized transactions and ensure accountability.
- Use an automated system to trigger purchase orders at minimum stock levels to avoid delays and stock outs.
- Create comprehensive supplier contracts to reduce disputes, legal issues, and quality variability.
- Implement procedures to cancel original invoices after payment and track payments to prevent duplicates and accounting errors.
- Establish a process for handling supplier disputes and credit note requests to resolve conflicts and maintain relationships.

Through the evaluation of the internal control system in the purchase cycle of A.P.M.C Unité Agglo Béton, yes we can identify operational risks and provide recommendations to improve the management of operational risks in the purchasing cycle.

The practical part of our study enabled us to get knowledge about the company's organizational structure, and service arrangements with the use of the organization chart of the company A.P.M.C. This enabled us to understand that the audit and management control department has an important hierarchical place in the company's organizational chart which explains the company's commitment to accountability, risk management, and operational efficiency. The flow of information through the company's services is also fairly good which signifies a strong and communication system in the company helping in decision making.

However, we were limited in our study due to the unavailability of enough information data and time. This limited us to deepen our practical part in measuring and analyzing the operational risks, for this, we used the simulation method with scenario analysis approach or method to do the analysis of the operational risks, in this simulation method we mentally envisioned different scenarios based on weaknesses in internal control system in the purchasing cycle. Despite the limitations, we can say that this practical internship enabled us to deepen our knowledge in the field of internal control, management of operational risks in the purchasing cycle, especially the evaluation of the internal control system. Finally, we propose for future research to put some extra focus on the management of operational risk in the purchasing cycle for example analyzing the potential risks at each stage of the purchasing process. By focusing on

this area, companies can strengthen their supply chain, reduce costs and improve overall their operational efficiency.

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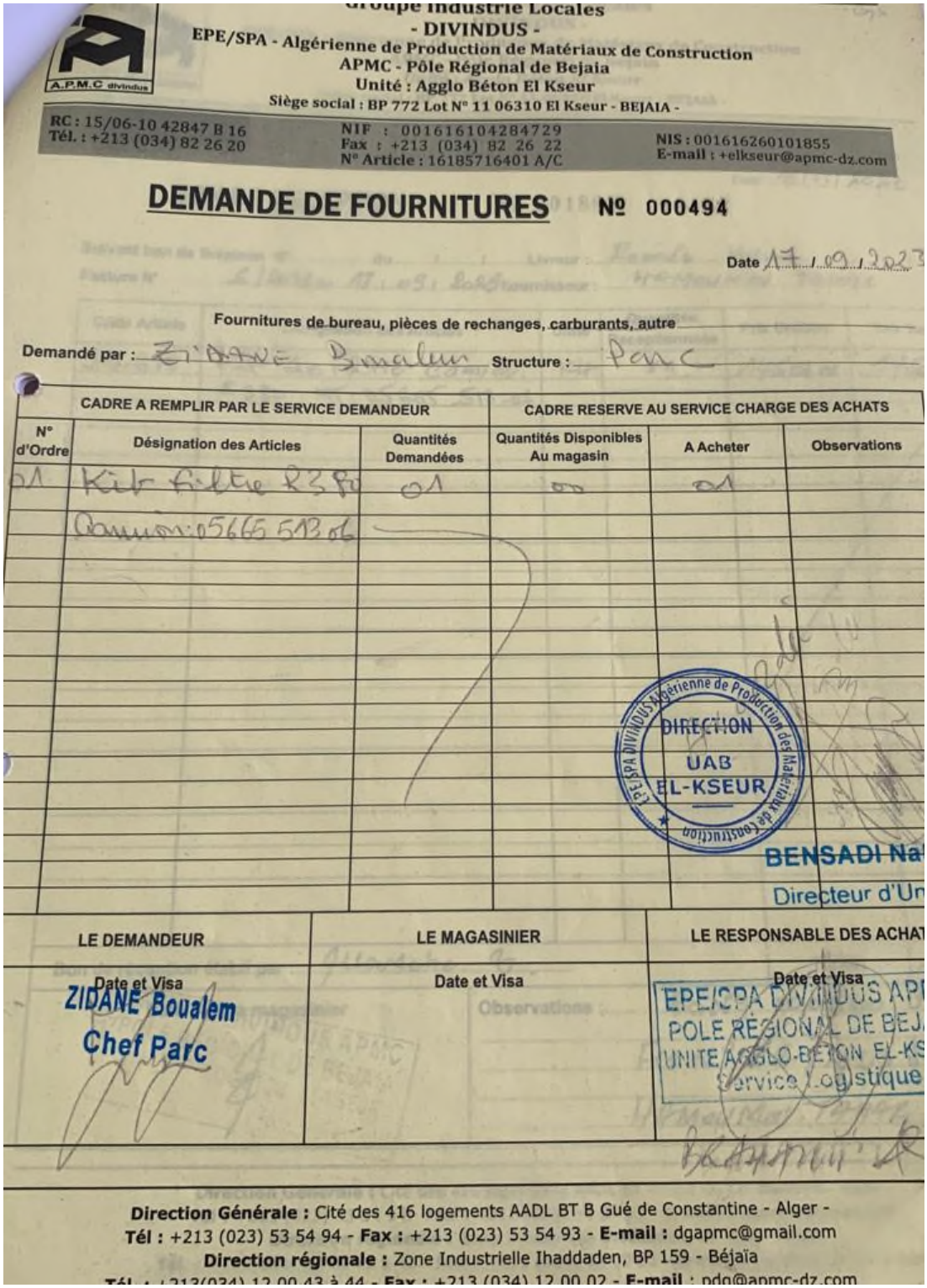
APPENDICES

Appendix 1: Purchase request



Groupe Industrie Locales
- DIVINDUS -
EPE/SPA - Algérienne de Production de Matériaux de Construction
APMC - Pôle Régional de Bejaia
Unité : Agglo Béton El Kseur
Siège social : BP 772 Lot N° 11 06310 El Kseur - BEJAIA -

RC : 15/06-10 42847 B 16 NIF : 001616104284729 NIS : 001616260101855
Tél. : +213 (034) 82 26 20 Fax : +213 (034) 82 26 22 E-mail : +elkseur@apmc-dz.com
N° Article : 16185716401 A/C

DEMANDE DE FOURNITURES Nº 000494

Date 17.09.2023

Fournitures de bureau, pièces de rechanges, carburants, autre

Demandé par : ZIDANE Boualem Structure : Parc

CADRE A REMPLIR PAR LE SERVICE DEMANDEUR			CADRE RESERVE AU SERVICE CHARGE DES ACHATS		
N° d'Ordre	Désignation des Articles	Quantités Demandées	Quantités Disponibles Au magasin	A Acheter	Observations
01	Kit fille R380	01	00	01	
	Camion: 05665 113 06				

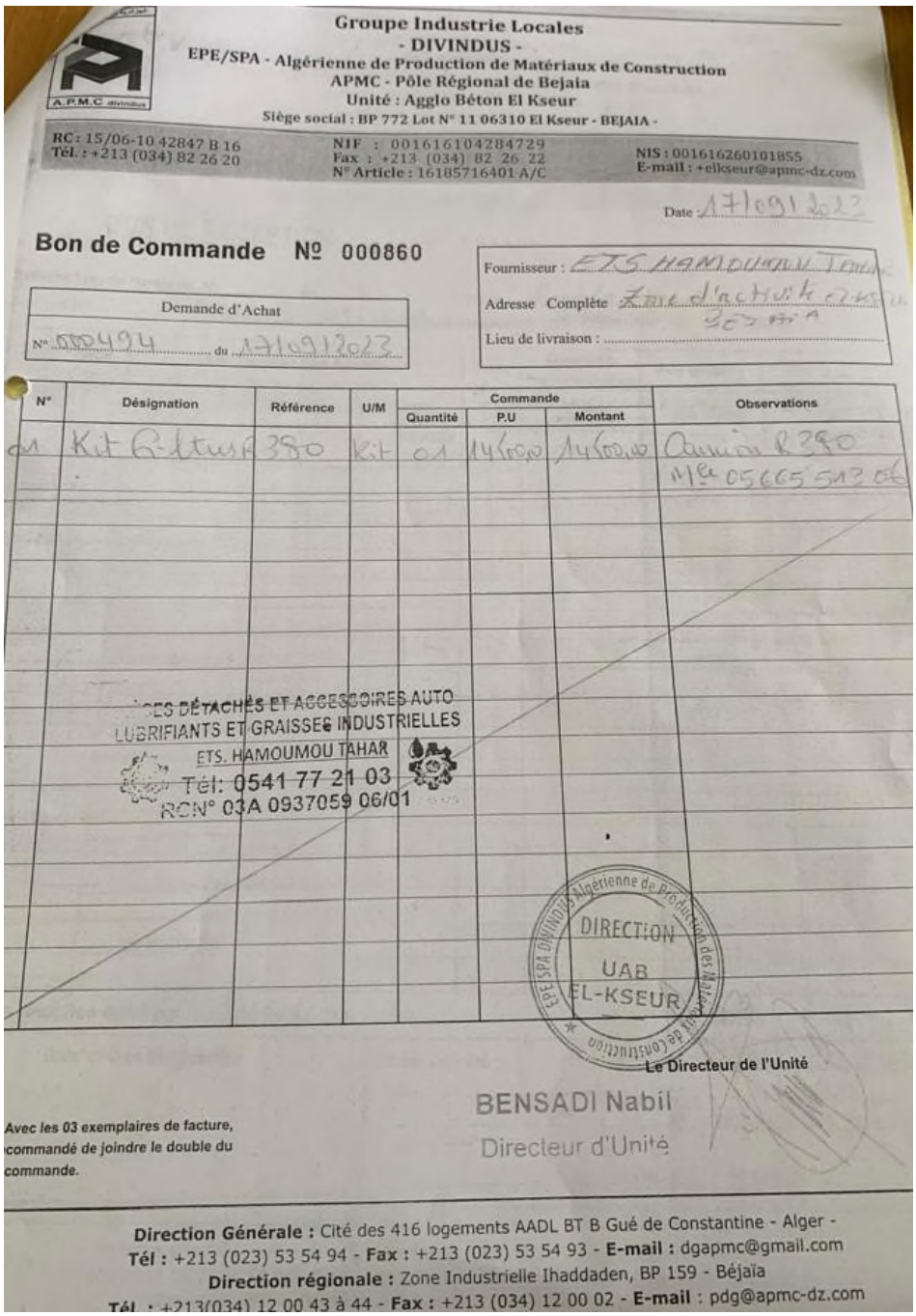
DIRECTION UAB EL-KSEUR
EPE/SPA DIVINDUS Algérienne de Production des Matériaux de Construction

BENSADI Na
Directeur d'Un

LE DEMANDEUR	LE MAGASINIER	LE RESPONSABLE DES ACHAT
Date et Visa	Date et Visa	Date et Visa
ZIDANE Boualem Chef Parc		EPE/SPA DIVINDUS AP POLE REGIONAL DE BEJ UNITE AGGLO-BETON EL-KS Service Logistique

Direction Générale : Cité des 416 logements AADL BT B Gué de Constantine - Alger -
Tél : +213 (023) 53 54 94 - Fax : +213 (023) 53 54 93 - E-mail : dgapmc@gmail.com
Direction régionale : Zone Industrielle Ihaddaden, BP 159 - Béjaïa
Tél. : +213(034) 12 00 43 à 44 - Fax : +213 (034) 12 00 02 - E-mail : pdg@apmc-dz.com

Appendix 2: Purchase order



Groupe Industrie Locales
- DIVINDUS -
EPE/SPA - Algérienne de Production de Matériaux de Construction
APMC - Pôle Régional de Bejaia
Unité : Agglo Béton El Kseur
Siège social : BP 772 Lot N° 11 06310 El Kseur - BEJAIA -

RC : 15/06-10 42847 B 16
Tél. : +213 (034) 82 26 20
NIF : 001616104284729
Fax : +213 (034) 82 26 22
N° Article : 16185716401 A/C
NIS : 001616260101855
E-mail : +elkseur@apmc-dz.com

Date : 17/09/2022

Bon de Commande Nº 000860

Fournisseur : ETS HAMOUMOU TAHAR
Adresse Complète : Zone d'activité N°45 SOUMAA
Lieu de livraison :

Demande d'Achat
N° 000494 du 17/09/2022

N°	Désignation	Référence	U/M	Commande			Observations
				Quantité	P.U	Montant	
01	Kit Embrayage B 380		Kit	01	14600,00	14600,00	Camion B 380 Mle 05655 51206

ETS. HAMOUMOU TAHAR
PIÈCES DÉTACHÉES ET ACCESSOIRES AUTO
LUBRIFIANTS ET GRAISSES INDUSTRIELLES
Tél: 0541 77 21 03
RCN° 03A 0937059 06/01

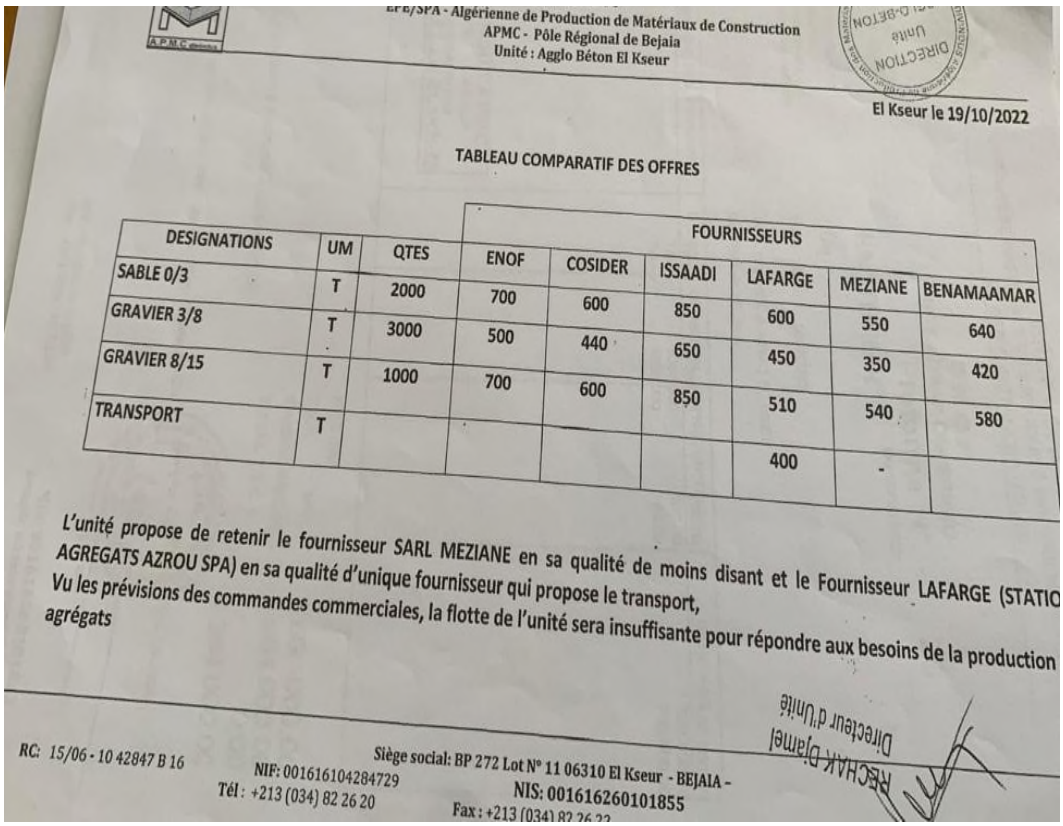
EPE/SPA DIVINDUS Algérienne de Production des Matériaux de Construction
DIRECTION UAB EL-KSEUR

Le Directeur de l'Unité
BENSADI Nabil
Directeur d'Unité

Avec les 03 exemplaires de facture, commandé de joindre le double du commande.

Direction Générale : Cité des 416 logements AADL BT B Gué de Constantine - Alger -
Tél : +213 (023) 53 54 94 - Fax : +213 (023) 53 54 93 - E-mail : dgapmc@gmail.com
Direction régionale : Zone Industrielle Ihaddaden, BP 159 - Béjaïa
Tél. : +213(034) 12 00 43 à 44 - Fax : +213 (034) 12 00 02 - E-mail : pdg@apmc-dz.com

Appendix 3: Comparative Table of Offers



EPE/SPA - Algérienne de Production de Matériaux de Construction
APMC - Pôle Régional de Bejaia
Unité : Agglo Béton El Kseur

El Kseur le 19/10/2022

TABLEAU COMPARATIF DES OFFRES

DESIGNATIONS	UM	QTES	FOURNISSEURS					
			ENOF	COSIDER	ISSAADI	LAFARGE	MEZIANE	BENAMAAMAR
SABLE 0/3	T	2000	700	600	850	600	550	640
GRAVIER 3/8	T	3000	500	440	650	450	350	420
GRAVIER 8/15	T	1000	700	600	850	510	540	580
TRANSPORT	T					400	-	

L'unité propose de retenir le fournisseur SARL MEZIANE en sa qualité de moins disant et le Fournisseur LAFARGE (STATIO
AGREGATS AZROU SPA) en sa qualité d'unique fournisseur qui propose le transport,
Vu les prévisions des commandes commerciales, la flotte de l'unité sera insuffisante pour répondre aux besoins de la production
agrégats

RECHAK Djamel
Directeur d'Unité

RC: 15/06 - 10 42847 B 16 NIF: 001616104284729 Tél : +213 (034) 82 26 20
Siège social: BP 272 Lot N° 11 06310 El Kseur - BEJAIA -
NIS: 001616260101855
Fax : +213 (034) 82 26 22

Appendix 4: Selection of supplier document

A.P.M.C divindus
Siège social : BP N° 159 Bejaia 6000, Zone Industrielle IHADDADEN - BEJAIA –

RC : 01/06 - 10 42847 B 16 NIF : 001616104284729 NIS : 001616260101855
Tél : +213 (034) 12 00 43 à 45 Fax : +213 (034) 12 00 02 E-mail : pdg@apmc-dz.com

DPRB/F-K/N° 597/ 2022

Procès-verbal de réunion de la Commission des achats n°01/2022

L'An Deux Mille Vingt Deux et le Vingt Quatre du mois d'Octobre à 10H00, s'est tenue, au siège de L'EPE/SPA APMC POLE REGIONAL DE BAJAIA, une réunion de travail de la commission des marchés de l'entreprise.

Etaient présents : voir liste d'émargement

ORDRE DU JOUR :

- Etude et évaluation des offres relatives à la consultation réalisée par l'unité agglos-béton El kseur portant : approvisionnement en agrégats et sable de carrière.

Ouverture de la séance : 10h00

Après les salutations d'usage, le président de la commission ouvre la séance et déclare le quorum atteint, ce qui autorise la commission à statuer valablement sur le point inscrit à l'ordre du jour adopté.

Consultation portant : fourniture d'agrégats avec les deux formules (départ carrière et rendu sur site de l'unité)

Présentation du dossier :

Nombre d'entreprises consultées : 06
Nombre d'offres reçues : 06
Unité de mesure : Tonne

DIVINDUS APMC
UNITÉ EL-KSEUR
Courrier Arrivé
Date: 26.10.22 N°: 11 55

Offre n° 01 :
Entreprise : EURL CARRIERE ISSADI MUSTAPHA
Sable 0/3 : PU HT 850 da
Gravier 3/8 : PU HT 650 da
Gravier 8/15 : PU HT 850 da

Offre n° 02 :
Entreprise : SARL BENMAAMAR T.P.H
Sable 0/3 : PU HT 640 da
Gravier 3/8 : PU HT 420 da
Gravier 8/15 : PU HT 580 da

Direction Générale : Cité des 416 logements AADL BT B Gué de Constantine – Alger –
Tél : +213(023)53 54 94 Fax : +213 (023)53 54 93 E-mail : pdg@apmc-divindus.dz

entreprise : SARL MEZIANE
Sable 0/3 : PU HT 550 da
Gravier 3/8 : PU HT 350 da
Gravier 8/15 : PU HT 540 da

Offre n° 04 :
Entreprise : ENTREPRISE NATIONALE DES PRODUITS MINIERS NON FERREUX ET DES SUBSTANCES UTILS ENOF UNITE CARRIERE ADRAR OUFERNOU
Sable 0/3 : PU HT 700 da
Gravier 3/8 : PU HT 500 da
Gravier 8/15 : PU HT 700 da

Offre n° 05 :
Entreprise : COSIDER CARRIERES UNITE C-34 EL MEHIR BBA
Sable 0/3 : PU HT 600 da
Gravier 3/8 : PU HT 440 da
Gravier 8/15 : PU HT 600 da

Offre n° 06 :
Entreprise : STATION AGREGATS AZROU SPA (LAFARGE)
Sable 0/3 : PU HT 600 da
Gravier 3/8 : PU HT 450 da
Gravier 8/15 : PU HT 510 da
Transport : PU HT 400 da

Délibération de la commission des achats :

A la suite de l'exposé du dossier et après avoir examiné l'ensemble des documents, les membres de la commission à l'unanimité proposent de retenir le fournisseur SARL MEZIANE en sa qualité de moins disant.
Le fournisseur LAFARGE (station agrégats AZROU SPA) en sa qualité de fournisseur qui propose le transport est retenu en cas de besoin de transport d'agrégats et sable.
séance est levée à 11h00

:
- Factures proforma
- Le tableau comparatif des offres
- La fiche de présence

es membres de la commission

Président

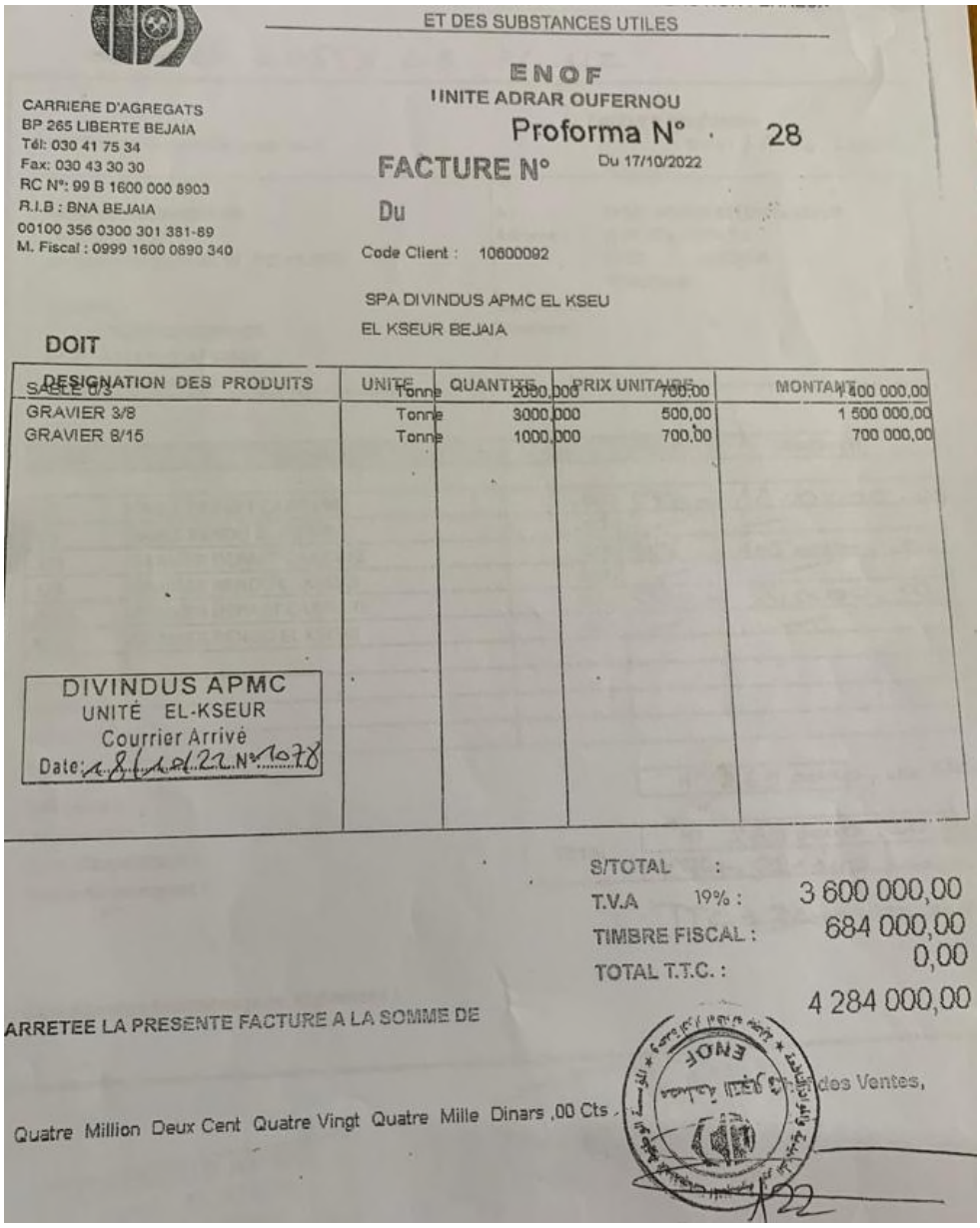
ECHAK Djamel
Directeur d'Unité

AZRI Rachid
Directeur d'Unité P/I

Mr. FERDJOUKH Karim
Directeur P/intérim
du Pôle de Béjaia

Chargé du Technique
DOUNI Rabah

Appendix 5: Profoma invoice



ET DES SUBSTANCES UTILES

ENOF
UNITE ADRAR OUFERNOU

CARRIERE D'AGREGATS
BP 265 LIBERTE BEJAIA
Tél: 030 41 75 34
Fax: 030 43 30 30
RC N°: 99 B 1600 000 8903
R.I.B : BNA BEJAIA
00100 356 0300 301 381-89
M. Fiscal : 0999 1600 0890 340

Proforma N° 28
FACTURE N° Du 17/10/2022
Du

Code Client : 10600092

SPA DIVINDUS APMC EL KSEU
EL KSEUR BEJAIA

DOIT

DESIGNATION DES PRODUITS	UNITE	QUANTITE	PRIX UNITAIRE	MONTANT
SABLE 0/3	Tonne	2000,000	700,00	1 400 000,00
GRAVIER 3/8	Tonne	3000,000	500,00	1 500 000,00
GRAVIER 8/15	Tonne	1000,000	700,00	700 000,00

DIVINDUS APMC
UNITÉ EL-KSEUR
Courrier Arrivé
Date: 18/10/22 N° 1078

S/TOTAL : 3 600 000,00
T.V.A 19% : 684 000,00
TIMBRE FISCAL : 0,00
TOTAL T.T.C. : 4 284 000,00

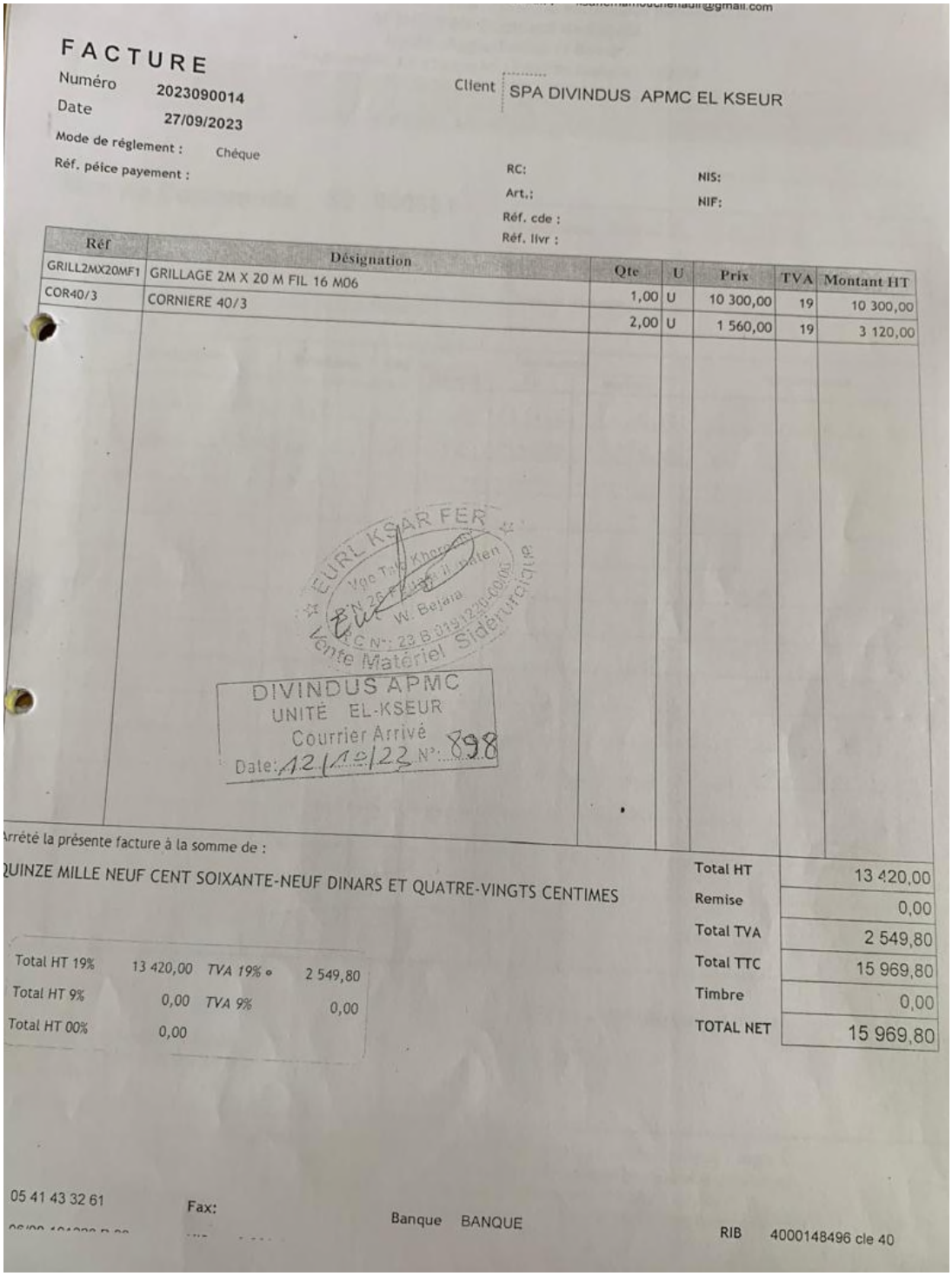
ARRETEE LA PRESENTE FACTURE A LA SOMME DE

Quatre Million Deux Cent Quatre Vingt Quatre Mille Dinars ,00 Cts

ENOF

des Ventes,

Appendix 6: Invoice



FACTURE

Numéro 2023090014

Date 27/09/2023

Mode de réglement : Chèque

Réf. péice payement :

Client SPA DIVINDUS APMC EL KSEUR

RC: NIS:

Art.: NIF:

Réf. cde :

Réf. livr :

Réf	Désignation	Qte	U	Prix	TVA	Montant HT
GRILL2MX20MF1	GRILLAGE 2M X 20 M FIL 16 M06	1,00	U	10 300,00	19	10 300,00
COR40/3	CORNIERE 40/3	2,00	U	1 560,00	19	3 120,00

EURL KSAR FER
Vente Matériel Sidérurgique
W. Bejaia

DIVINDUS APMC
UNITE EL-KSEUR
Courrier Arrivé
Date: 12/10/23 N°: 898

Arrêté la présente facture à la somme de :

QUINZE MILLE NEUF CENT SOIXANTE-NEUF DINARS ET QUATRE-VINGTS CENTIMES

Total HT 19%	13 420,00	TVA 19%	2 549,80
Total HT 9%	0,00	TVA 9%	0,00
Total HT 00%	0,00		

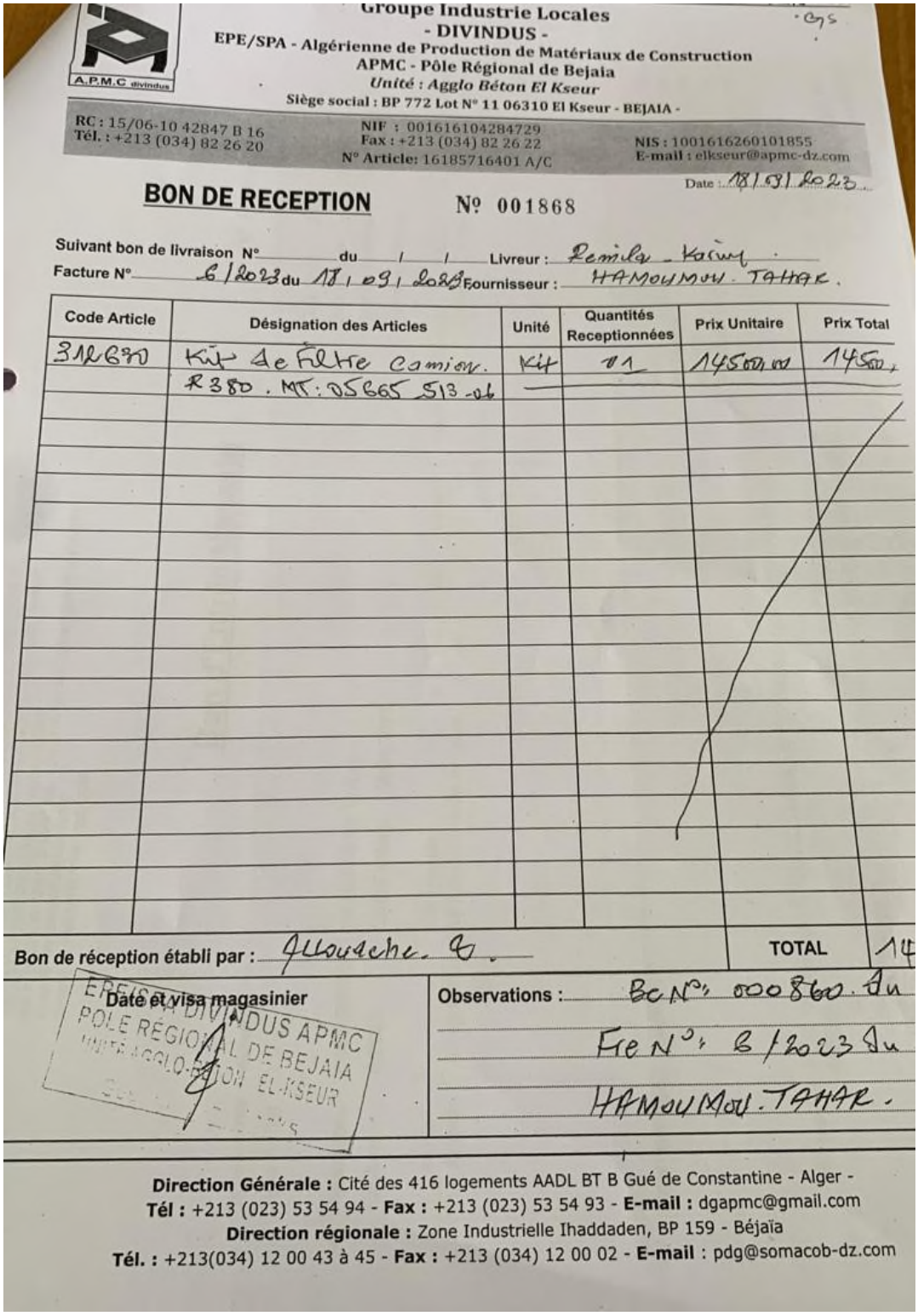
Total HT	13 420,00
Remise	0,00
Total TVA	2 549,80
Total TTC	15 969,80
Timbre	0,00
TOTAL NET	15 969,80

05 41 43 32 61 Fax:

Banque BANQUE

RIB 4000148496 cle 40

Appendix 7: Goods received note



Groupe Industrie Locales
- DIVINDUS -
EPE/SPA - Algérienne de Production de Matériaux de Construction
APMC - Pôle Régional de Bejaia
Unité : Agglo Béton El Kseur
Siège social : BP 772 Lot N° 11 06310 El Kseur - BEJAIA -

RC : 15/06-10 42847 B 16
Tél. : +213 (034) 82 26 20
NIF : 001616104284729
Fax : +213 (034) 82 26 22
N° Article: 16185716401 A/C
NIS : 1001616260101855
E-mail : elkseur@apmc-dz.com

Date : 18/09/2023

BON DE RECEPTION Nº 001868

Suivant bon de livraison N° ____ du ____ Livreur : Remila - Kacuf
Facture N° 6/2023 du 18/09/2023 Fournisseur : HAMOUMOU. TAHAR.

Code Article	Désignation des Articles	Unité	Quantités Receptionnées	Prix Unitaire	Prix Total
312680	Kit de Filtre Camion.	Kit	01	14500,00	14500,
	R380. MT: 05665 513-06				
				TOTAL	14

Bon de réception établi par : Mouache. G.

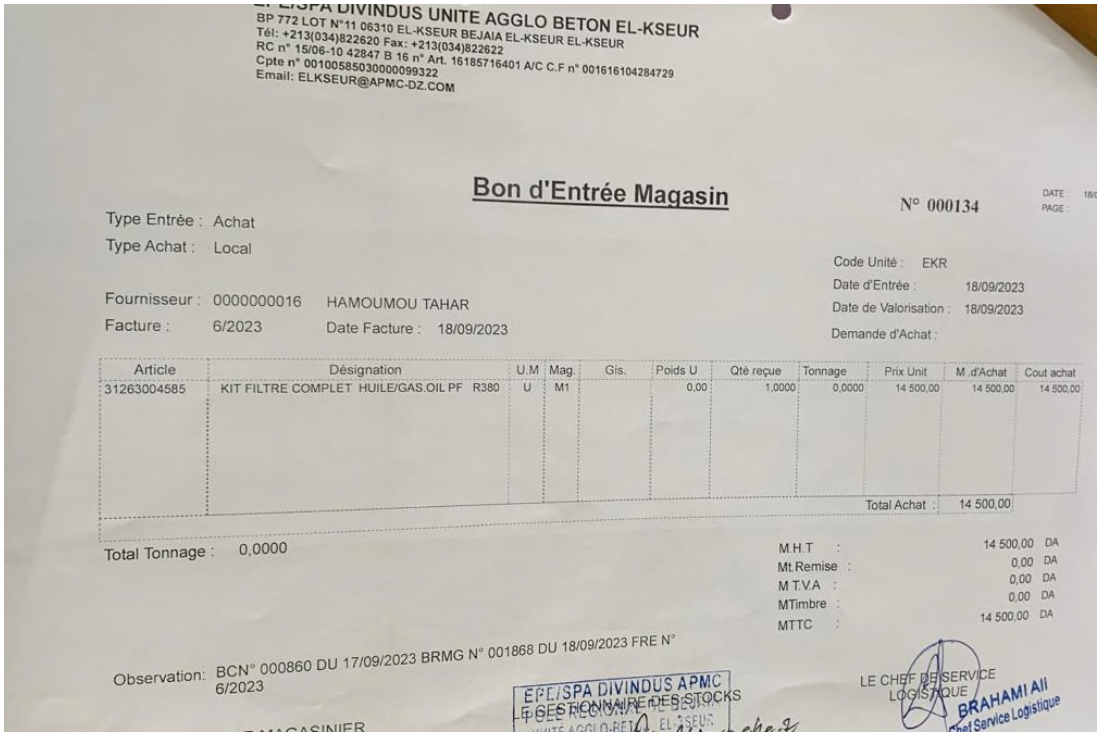
Date et visa magasinier

ERE/SPA DIVINDUS APMC
POLE RÉGIONAL DE BEJAIA
UNITE AGGLO-BETON EL-KSEUR

Observations : BC N°: 000860. Du
FC N°: 6/2023 Du
HAMOUMOU. TAHAR.

Direction Générale : Cité des 416 logements AADL BT B Gué de Constantine - Alger -
Tél : +213 (023) 53 54 94 - **Fax :** +213 (023) 53 54 93 - **E-mail :** dgapmc@gmail.com
Direction régionale : Zone Industrielle Ihaddaden, BP 159 - Béjaïa
Tél. : +213(034) 12 00 43 à 45 - **Fax :** +213 (034) 12 00 02 - **E-mail** : pdg@somacob-dz.com

Appendix 8: Goods entry



EPE/SPA DIVINDUS UNITE AGGLO BETON EL-KSEUR
BP 772 LOT N°11 06310 EL-KSEUR BEJAIA EL-KSEUR EL-KSEUR
Tél: +213(034)822620 Fax: +213(034)822622
RC n° 15/06-10 42847 B 16 n° Art. 16185716401 A/C C.F n° 001616104284729
Cpte n° 00100585030000099322
Email: ELKSEUR@APMC-DZ.COM

Bon d'Entrée Magasin

N° 000134

DATE : 18/
PAGE :

Type Entrée : Achat
Type Achat : Local

Code Unité : EKR
Date d'Entrée : 18/09/2023
Date de Valorisation : 18/09/2023
Demande d'Achat :

Fournisseur : 0000000016 HAMOUMOU TAHAR
Facture : 6/2023 Date Facture : 18/09/2023

Article	Désignation	U.M	Mag.	Gis.	Poids U	Qté reçue	Tonnage	Prix Unit	M .d'Achat	Cout achat
31263004585	KIT FILTRE COMPLET HUILE/GAS.OIL PF R380	U	M1		0,00	1,0000	0,0000	14 500,00	14 500,00	14 500,00

Total Achat : 14 500,00

Total Tonnage : 0,0000

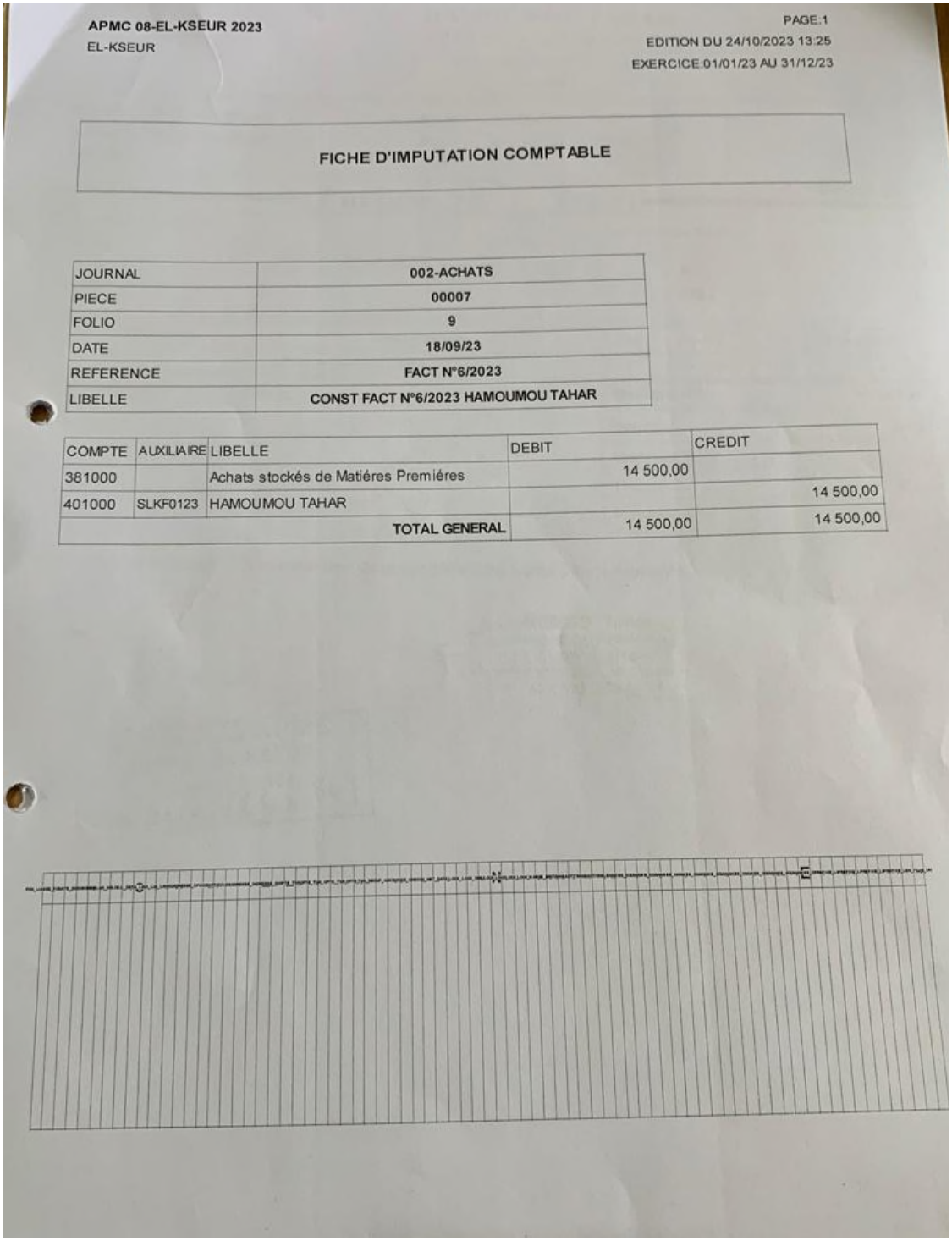
M.H.T : 14 500,00 DA
Mt.Remise : 0,00 DA
M T.V.A : 0,00 DA
MTimbre : 0,00 DA
MTTC : 14 500,00 DA

Observation: BCN° 000860 DU 17/09/2023 BRMG N° 001868 DU 18/09/2023 FRE N° 6/2023

EPE/SPA DIVINDUS APMC
LE GESTIONNAIRE DES STOCKS

LE CHEF DE SERVICE LOGISTIQUE
BRAHAMI Ali
Chef Service Logistique

Appendix 9: Accounting allocation sheet



APMC 08-EL-KSEUR 2023
EL-KSEUR

PAGE:1
EDITION DU 24/10/2023 13:25
EXERCICE:01/01/23 AU 31/12/23

FICHE D'IMPUTATION COMPTABLE

JOURNAL	002-ACHATS
PIECE	00007
FOLIO	9
DATE	18/09/23
REFERENCE	FACT N°6/2023
LIBELLE	CONST FACT N°6/2023 HAMOUMOU TAHAR

COMPTE	AUXILIAIRE	LIBELLE	DEBIT	CREDIT
381000		Achats stockés de Matiéres Premiéres	14 500,00	
401000	SLKF0123	HAMOUMOU TAHAR		14 500,00
		TOTAL GENERAL	14 500,00	14 500,00

Table of contents

RÉSUMÉ (ABSTRACT IN FRENCH)
Les entreprises diversifient de plus en plus leurs activités, ce qui conduit à un environnement commercial plus complexe et dynamique qui a fait augmenter les risques. Par conséquent, il est crucial pour chaque organisation commerciale de mettre en place un solide système de gestion des risques opérationnels et de contrôle interne pour assurer une efficacité opérationnelle continue et réduire les menaces potentielles. Cette étude porte sur l'évaluation du système de contrôle interne au sein du cycle d'achat, pour connaître l'impact de ces contrôles internes sur la gestion des risques opérationnels, identifier les risques opérationnels et proposer des recommandations pour améliorer la gestion de ces risques dans l'entreprise A.P.M.C Unité Agglo Béton qui est notre étude de cas. Tout d'abord, les concepts clés liés au contrôle interne sont identifiés. Ensuite, la méthodologie d'évaluation des procédures de contrôle interne et les différents outils utilisés sont présentés. Enfin, l'évaluation du système de contrôle interne.

Notre formation pratique à A.P.M.C Unité Agglo Béton a montré que l'intégration des systèmes de contrôle interne et de la gestion des risques opérationnels réduit les risques dans le cycle d'achat de l'entreprise. L'entreprise, spécialisée dans les matériaux de construction, met l'accent sur les contrôles internes efficaces et la gestion des risques dans son processus d'approvisionnement. Les services financiers, comptables, opérationnels et logistiques/achats sont fortement impliqués dans le contrôle interne et l'approvisionnement. Les procédures d'achat structurées de l'entreprise garantissent transparence et responsabilité.

A travers des tests de conformité, nous avons vérifié le système de contrôle interne, en identifiant certaines forces et faiblesses. Une évaluation préliminaire a mis en évidence des forces et faiblesses théoriques, testées pour la cohérence dans un test permanent. L'évaluation finale a utilisé des simulations pour identifier les risques opérationnels, résumés dans un rapport d'évaluation. En effet, notre partie pratique nous a permis d'identifier les risques opérationnels dans le système de contrôle interne des achats chez A.P.M.C Unité Agglo Béton

Mots clés : Système de contrôle interne, risques opérationnels, cycle d'achat, A.P.M.C Unité Agglo Béton.