

**Dissertation submitted in partial fulfilment of the requirements
for a Master's degree**

Major: Audit and management control

THEME:

**THE IMPACT OF UNVEILING HIDDEN COSTS
ON COST REDUCTION
CASE OF STUDY: EL KENDI PART OF MS
PHARMA**

Submitted by:

Misses

Mouchara Ghada

Zeboudji Hadjer

Supervised by:

Dr

Ziani Imen Hiba

Senior lecturer A

Academic year

2023-2024

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Dedications:

First and foremost, I express my deepest gratitude to Allah for guidance and blessings. I also want to acknowledge my own perseverance and dedication, alongside my incredible Partner in this work, whose support and collaboration were invaluable.

To my dear mother, your constant prayers and unwavering dedication in raising and educating me have been my greatest strength. Your love and sacrifices have made everything possible. To my beloved father, whose guidance, wisdom, and encouragement have been the foundation of my achievements, I am eternally grateful. Your belief in me has been my driving force.

To my brothers, Mouhamed Bachir and Nadir, and my lovely sister, Nouria, your steadfast support and love have been my pillars of strength. You have stood by me through every challenge, and for that, I am deeply thankful. To my sisters-in-law, who have become friends, your friendship and encouragement have meant the world to me.

To my niece, the princess Ania, and my nephews, the precious Abd El Rahim, Younes, Youssef, and baby Issam, you have brought immense joy and motivation into my life, you always making me smile and reminding me of the simple joys in life.

My heartfelt thanks to my best friends, Asma, Ghada, Hadjer, Khadidja, Naila, and Sarah. Your friendship has filled the last five years with laughter, happiness, and unforgettable memories. You have made every moment special, and I am forever grateful for your presence in my life.

Lastly, to everyone I have not mentioned by name, your support and love have not gone unnoticed. You have all contributed to this journey in ways that words cannot fully express.

Yours,

Hadjer

Dedications:

First and foremost, I want to thank Allah for His guidance and for giving me the privilege to get to where I am now.

To my partner Hadjer, I am always grateful for you. We have been together throughout this five-year journey, and I thank you for being the sweet, caring friend who gave me strength in every hardship.

To my parents, my dad and my mom, thank you for your hard work and for always standing by my side and supporting me no matter what. I will never take that for granted.

To my siblings: Ali, Ayoub, Hiba, and Abd el Rahman, thank you for checking on me and supporting me all the way.

To my cousins Chaima and Safa, my ride-or-die, and Hana, my childhood role model, thank you for being my go-to in every situation.

To my friends Khadidja, Hadjer, Naila, and Asma, you made campus life a fun journey that I will never forget. I hope to always stay in touch with you.

And lastly, to Chirine, the friend with whom no distance can change our genuine relationship.

And of course, I'm not going to end this without thanking my baby Luna, thank you for always putting a smile on my face.

Thank you all for believing in me.

Yours,

Ghada

Acknowledgments:

We would like to express our deepest gratitude to our supervisor, Mrs. Ziani Imen Hiba, for her invaluable help and guidance throughout this thesis. Her expertise and support have been crucial to our success, and we are truly grateful for her mentorship.

We also extend our heartfelt thanks to the staff and teachers of the Higher School of Management and Digital Economy. Your dedication and hard work make our school an exceptional place for learning and growth. We appreciate everything you do to support and inspire us.

Lastly, we would like to thank El Kendi company for their warm welcome and generous hospitality. Your support and cooperation have greatly contributed to the success of our research.

Thank you all for your invaluable contributions.

Yours sincerely,

Hadjer Zeboudji

Ghada Mouchara

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List of abbreviations

Abbreviation	Full form
R&D	Research and development
CIMA	Chartered Institute of Management Accountant
SCC	Supply Chain Costs
VE	Value Engineering
ABM	Activity Based Management
TQM	Total Quality Management
ISEOR	Institut de socio-économie des entreprises et des organisations
HCMVC	Hourly Contribution to the Margin on Variable Costs
MCV	Margin on Variable Costs
ESAW	European Statistics on Accidents at Work
CNQ	Costs of Non-Quality
SOF	Social Organizational Financial
TRIPS	Trade-Related Aspects of Intellectual Property Rights
MAT	Moving Annual Total
GSK	Glaxo Smith Kline
PCSU	Prix cession sortie usine
UPC	Unit production cost
CIPCM	Unit cost of Imported Products and Consumed Materials
CISC	Unit cost of Imported Services Consumed
FOB	Free On Board

CNAS	Caisse Nationale des Assurances Sociales et des Salariés
CASNOS	Caisse Nationale de Sécurité Sociale des Non-Salariés
CNR	Caisse Nationale des Retraites
CNAC	Caisse Nationale d'Assurance Chomage
MS PHARMA	Masters of Science on Pharmacy
MEA	Middle East and Africa
OSD	Oral Solid Dosage
INNs	International Non-proprietary Names
SKU	Stock Keeping Unit
KPI	Key Performance Indicator
HSE	Health, Safety and Environment
CDD	Contrat à Durée Déterminée
SOP	Standard Operating Procedure
GMP	Good Manufacturing Practices

Abstract

This dissertation investigates the impact of unveiling hidden costs on cost reduction, focusing on a case study of El Kendi, a subsidiary of MS Pharma. The research is divided into two main chapters. The first chapter provides a theoretical framework, exploring the concepts of cost reduction and the hidden costs approach. The second chapter adopts a practical approach, aiming to identify and measure the hidden costs within El Kendi. This involves evaluating hidden costs associated with five key indicators: absenteeism, work accidents, turnover, non-quality, and under-productivity. Through this analysis, we demonstrate that El Kendi incurs significant hidden costs. Our findings suggest that by addressing and mitigating these hidden costs, El Kendi can achieve substantial cost reductions and enhance its overall profitability.

Keywords: Hidden Costs, Cost Reduction, Cost Management, Financial Performance, Pharmaceutical Industry.

Résumé

Cette mémoire examine l'impact de la révélation des coûts cachés sur la réduction des coûts, en se concentrant sur une étude de cas d'El Kendi, une filiale de MS Pharma. La recherche est divisée en deux chapitres principaux. Le premier chapitre fournit un cadre théorique, explorant les concepts de réduction des coûts et l'approche des coûts cachés. Le deuxième chapitre adopte une approche pratique, visant à identifier et mesurer les coûts cachés au sein d'El Kendi. Cela implique l'évaluation des coûts cachés associés à cinq indicateurs clés : l'absentéisme, les accidents de travail, le turnover, la non-qualité et la sous-productivité. Grâce à cette analyse, nous démontrons qu'El Kendi encourt des coûts cachés significatifs. Nos conclusions suggèrent qu'en abordant et en atténuant ces coûts cachés, El Kendi peut réaliser des réductions de coûts substantielles et améliorer sa rentabilité globale.

الملخص

تتناول هذه المذكرة تأثير الكشف عن التكاليف الخفية على خفض التكاليف، مع التركيز على دراسة حالة شركة الكندي، وهي شركة تابعة لشركة إم إس فارما. تنقسم الدراسة إلى فصلين رئيسيين. يقدم الفصل الأول إطارًا نظريًا، يستكشف مفاهيم خفض التكاليف ونهج التكاليف الخفية. يتبنى الفصل الثاني نهجًا عمليًا، يهدف إلى تحديد وقياس التكاليف الخفية داخل شركة الكندي. يشمل ذلك تقييم التكاليف الخفية المرتبطة بخمسة مؤشرات رئيسية: الغياب، حوادث العمل، الدوران الوظيفي، الجودة المنخفضة وانخفاض الإنتاجية. من خلال هذا التحليل، نثبت أن شركة الكندي تتكبد تكاليف خفية كبيرة. تشير نتائجنا إلى أنه من خلال معالجة هذه التكاليف الخفية والتخفيف منها، يمكن لشركة الكندي تحقيق تخفيضات كبيرة في التكاليف وتحسين ربحها بشكل عام.

General introduction

Effective management is crucial to the success of any company, particularly when it involves comprehensive cost management. So, to prevent management failures, management control and auditing are essential for large organizations. These practices serve as the most prevalent forms of administrative and financial supervision, ensuring that the company is well-structured and that resources are managed efficiently.

In the competitive business environment, companies are continuously innovating to remain competitive in the market. They have realized that satisfying customers requires producing products that meet customer needs and desires while maintaining high quality at lower costs. However, it is not enough to only focus on visible costs. Organizations must also look for ways to control hidden costs that are not accounted for in their financial systems.

This perspective led to the establishment of ISEOR in 1976. The institute demonstrates that it is possible to ally economic and social objectives within companies, aiming to reduce costs and boost productivity. ISEOR consultants assist businesses in implementing effective management practices by adopting a new approach to management control that addresses company dysfunctions and initiates sustainable improvement projects. This socio-economic management approach considers the increasing complexity of organizations and their environments, where human, economic, social, organizational, and technical factors are closely intertwined and interdependent.

Within this context, our dissertation theme, "The Impact of Unveiling Hidden Costs on Cost Reduction: Case Study of El Kendi" demonstrates the crucial role of management control in identifying and unveiling hidden costs through the use of analysis and monitoring tools. These tools uncover expenses not visible in traditional financial statements. By bringing these hidden costs to light, management control enhances financial transparency, enabling managers to make more informed decisions to optimize resources and processes. This leads to waste reduction, continuous performance improvement, and greater long-term profitability.

The choice of this research topic is driven by:

Personal interest: We are interested in cost management due to our previous studies. Our coursework has provided us with a solid foundation in financial analysis and control, sparking

a keen interest in understanding how effective cost management can enhance business performance and profitability.

Academic motivation: The need to unveil hidden costs in companies, particularly in the Algerian pharmaceutical industry, where product quality is of utmost importance. In Algeria, health authorities frequently negotiate drug prices with manufacturers. However, these negotiations are often biased because the authorities lack complete visibility into the actual costs presented to them. This situation challenges pharmaceutical companies to reduce costs to maintain profitability.

Our research aims to explore how revealing hidden costs can aid in cost reduction. By answering the following question:

“Does the identification and management of hidden costs lead to achieving cost reduction goals?”

This problem raises the following sub-questions:

- **Q1:** What are the origins of hidden costs and their components?
- **Q2:** Can the identification of hidden costs aid the overall cost reduction and profitability?
- **Q3:** How can we evaluate the hidden costs associated with each indicator at El Kendi?

To answer these questions, we propose the following hypotheses:

- **H1:** Hidden costs originate from inefficiencies in operational processes. Their components may include indirect labour costs, overconsumption expenses, administrative overheads, and risk costs.
- **H2:** The identification of hidden costs will significantly aid in overall cost reduction and enhance profitability by providing a clearer picture of financial inefficiencies.
- **H3:** Evaluating the hidden costs associated with each indicator at El Kendi can be achieved through a comprehensive analysis of the company’s inefficiencies to provide actionable insights for cost management.

To confirm or disprove these hypotheses, we will conduct an in-depth literature review in the theoretical part. However, for the practical part, we will use an analytical descriptive method,

incorporating both qualitative and quantitative studies. This approach will enable us to understand the impact of unveiling hidden costs on cost reduction.

We have structured our study to enhance readability and comprehension. This research paper is divided into two main chapters that explore both theoretical concepts and practical applications related to cost reduction and the hidden cost approach:

Chapter 1 is structured into two sections. The first section focuses on cost reduction, beginning with introducing the concept of costs. It then delves into the theoretical framework of cost reduction, highlighting the main concepts and elements involved. Additionally, it defines and explains the four most commonly used tools for cost reduction. Section 2 addresses the hidden cost approach, starting with an exploration of dysfunctions. It then identifies various indicators of dysfunction within an organization. Lastly, it assesses hidden costs using the SOF method and outlines procedures and benefits of reducing these costs, emphasizing how unveiling hidden costs contributes to overall cost reduction.

Chapter 2 is also divided into two sections, focusing on the practical application of the theoretical concepts discussed in the first chapter. Section 1 provides an overview of the pharmaceutical sector in Algeria, followed by an introduction to El Kendi, a part of MS Pharma, including details about its finance department. The section concludes with a description of the research methodology used, detailing the tools and variables applied in the study. Section 2 is dedicated to unveiling El Kendi's hidden costs. It describes the implementation of the company's hidden cost approach using the SOF method on each indicator: absenteeism, workplace accidents, staff turnover, non-quality, and under-productivity, illustrating how these factors contribute to hidden costs and how addressing them can lead to cost reductions.

This introduction outlines the general framework of the study, its motivations, and the primary research questions and hypotheses. It also presents the work plan for an in-depth analysis of the impact of hidden cost disclosure on cost reduction in the Algerian pharmaceutical industry.

Chapter 1: Theoretical concepts of cost reduction and the hidden costs approach

Introduction

In the business world, understanding the tools and methods of cost reduction is crucial for organizations striving to maintain competitiveness.

This chapter delves into the theoretical concepts of costs and cost reduction strategies, shedding light on fundamental definitions, and the classifications of costs, and navigates through the complexities of cost accounting. It then discusses the theoretical framework of cost reduction, covering the main concepts and elements essential for reducing costs effectively. Following this, it defines and explains the four most commonly used cost-reduction tools.

Furthermore, it delves into the Hidden Cost Approach, starting with Dysfunctions and Hidden Costs, which explores the definitions, origins, and categories of hidden costs, along with their components. It then identifies various indicators of dysfunction within an organization

Delving deeper, the chapter evaluates the profound implications of hidden costs on organizational performance using the SOF method. and then it outlines the procedures and benefits of reducing these costs.

1.1 Cost Reduction

The concept of costs holds a central place in business management, defining the framework within which decisions are made and resources are allocated. Costs encompass expenses associated with the production of goods or the provision of services, ranging from raw materials and labour to overhead and distribution costs. Understanding the various types of costs, their classification and their accounting is essential for effective resource management. Concurrently, cost reduction emerges as a major strategic concern for organizations seeking to improve profitability, competitiveness, and sustainability. Cost reduction involves a systematic approach aimed at minimizing expenses without compromising the quality or value of the products and services offered.

This section is organized into three subsections, the fundamental concepts of costs, followed by an exploration of the theoretical framework of cost reduction and various methodologies employed for achieving it.

1.1.1 Concept of costs

The concept of costs is a fundamental aspect of understanding and controlling an organization's expenditures.

1.1.1.1 Definition of costs

The concept of cost can be defined as a trade-off made to obtain something. Within the business context, cost is typically expressed in monetary terms and represents the value of inputs, materials, time, risks, and foregone opportunities associated with the production and delivery of goods and services. In other words, costs incurred by a company's resources used in manufacturing its products are classified as explicit and implicit costs.¹

The concept of cost can be defined as the financial worth of all the sacrifices made to achieve a specific objective, specifically in the production of goods and services. Cost holds significant importance in the decision-making process within a business. The cost of production sets the foundation for pricing strategies and enables managers to

¹Ebele Stella Nwokoye et al (2018), Theory of Costs [Principles of Economics 1], Department of Economics, Nnamdi Azikiwe University Awka, Nigeria, p. 114.

https://www.researchgate.net/publication/326841533_CHAPTER_FIVE_THEORY_OF_COSTS [19/04/2024 at 10:00]

make informed choices, such as determining the appropriate pricing, deciding whether to proceed with a particular input order, evaluating whether to introduce or eliminate a product from the existing line, and so forth. Generally, cost refers to the monetary expenses incurred by a company during the production process. It also encompasses the imputed value of the resources and services provided by the entrepreneur, as well as the salary of the owner-manager.¹

According to Burlaud & Simon, “A cost is a calculation by which charges are grouped according to a criterion deemed relevant, which assumes that the intended use has been defined in advance. In most organizations, one or more of the following groups are used: by-product; by activity; or by centre (or section or service).”²

1.1.1.2 Classification of costs

According to Charles T. Horngren, “Cost classification is the systematic process of grouping costs into categories according to common characteristics, such as nature, function, behaviour, or purpose. This helps in analysing and managing costs effectively.”³

1.1.1.2.1 By nature

➤ **Materiel:**

“Direct Materials: Raw materials that go into the product.”⁴

“Indirect Materials: are materials which cannot be allocated but which can be apportioned to or absorbed by cost centres or cost units.”⁵

➤ **Labour:**

“Direct Labour: Workers’ wages on the production line.”¹

¹ Sunita Srivastava (n.d.), *Theory of Cost*, Department of Commerce, University of Lucknow, India, p. 1.

https://www.lkouniv.ac.in/site/writereaddata/siteContent/202004120812185977sunita_com_New_theory_of_cost.pdf[19/04/2024 at 10:30]

² Burlaud Alain et al (2003), *Introduction* [Comptabilité de gestion coûts/contrôle 3me édition], Gestion, Vuibert, France, p.3.

³ Smita Subhashchandra Pande et al (2023), *Advanced Cost Accounting & Cost System*, Success Publications, Pune, p. 6.

⁴ Hoque Zahirul (2005), *Handbook of Cost & Management Accounting*, Spiramus Press, The Boathouse Office, London, p. 11.

⁵ Narsis, I (2009), *Theory in Cost Accounting*, Atlantic Publishers & Distributors (P) LTD, India, p. 20.

“Indirect Labour: is labour employed to carry out work incidental to goods or services provided.”²

➤ **Expenses:**

“Expenses are the costs that a company incurs as part of its regular business operations.”³

“Manufacturing Overhead: All other factory costs, for example, rent, heat, light, depreciation of factory equipment, factory property, taxes, insurance.”⁴

1.1.1.2.2 By time

➤ **Historical:**

“These costs are ascertained after they are incurred. Such costs are available only when the production of a particular thing has already been done.”⁵

➤ **Pre-determined:**

“These costs are calculated before they are incurred based on a specification of all factors affecting cost.” Such costs may be:⁶

- Estimated costs
- Standard costs

1.1.1.2.3 By traceability (identically)

➤ **Direct:**

¹Hoque Zahirul, Op.cit. p.11.

² Narsis, I, Op.Cit. p 21.

³ Smita Subhashchandra Pande et al, Op.Cit. p 10.

⁴Hoque Zahirul , Op.cit. p.11.

⁵Institute of Company Secretaries of India, (2017),*Cost And Management Accounting*, ICSI, New Delhi,p. 7, Retrieved from https://www.icsi.edu/media/webmodules/publications/FULL_BOOK_PP-CMA-2017-JULY_4.pdf [15/04/2024 at 10:00]

⁶*Idem.*

“Direct costs are those costs which can be conveniently associated wholly with a particular unit of a final product. Direct costs can be directly identified with and allocated to cost centres or cost units.”¹

➤ **Indirect:**

The Institute of Cost and Management Accountants (UK) defines indirect cost as the *"Cost which cannot be allocated but which can be apportioned to or absorbed by cost centres or cost units."*²

1.1.1.2.4 By function

➤ **Production or Manufacturing costs:**

“It includes all costs incurred by the factory from the receipt of raw materials and supply of labour and services until production is completed and the finished product is packed with the primary packing.”³

➤ **Administrative costs:**

“Administration costs are expenses incurred for general management of an organization: the cost of formulating policy, directing, organizing and controlling the operations of an undertaking .”⁴

➤ **Selling & Distribution Costs:**

“These costs are associated with promoting and distributing products to customers, such as advertising, sales commissions, and transportation costs.”⁵

➤ **R&D costs:**

“R&D costs are the cost for undertaking research to improve quality of a present product or improve the process of manufacture, develop a new product, market research...etc.”¹

¹Roshankumar M. Bhigania (2019), *Cost Accounting*, Lulu Publication, United States, p. 5.

²*Idem.*

³The Institute of Cost Accountants of India (2016), *Cost Accounting*, Directorate of Studies The Institute of Cost Accountants of India (ICAI), Kolata, p. 16. <https://icmai.in/upload/Students/Syllabus2016/Inter/Paper-8-January-2021.pdf> [17/04/2024 at 17:00]

⁴*Idem.*

⁵Smita Subhashchandra Pande et al , Op.cit. p.8.

➤ **Pre-production costs:**

*“These are costs incurred when a new factory is in the process of establishment, a new project is undertaken, or a new product line”.*²

1.1.1.2.5 By variability (changes in activity)

➤ **Fixed:**

*“They are costs incurred on non-core production activities and tend to be unaffected by the fluctuation in the changes in the level of activities especially in the short run.”*³

➤ **Variable:**

*“These are costs incurred on core-production activities and change in direct proportion to changes in the level of activities.”*⁴

➤ **Semi-variable:**

*“These are costs that contain both fixed and variable components and are partly affected by the changes in the level of activities. also called mixed cost.”*⁵

1.1.1.2.6 By controllability

➤ **Controllable costs:**

*“Controllable Costs are the costs which can be influenced by the action of a specified number of an undertaking.”*⁶

➤ **Uncontrollable costs:**

¹The Institute of Cost Accountants of India, Op.Cit. p. 17.

²*Idem.*

³Ibrahim Amoo Ganiyu (2018), *Cost and Management Accounting Fundamentals (Management Accounting I)*, Cost Classification, overhead costs allocation and apportionment - Chapter 2, p. 13.
https://www.academia.edu/38895279/Cost_classification_overhead_costs_allocation_and_apportionment_Chapter_2 [16/04/2024 at 7:00]

⁴*Idem.*

⁵*Idem.*

⁶Periasamy, P (2010), *Textbook of Financial Cost and Management Accounting*, Himalaya Publishing House, Mumbai, p. 308.

“Uncontrollable Costs are those costs which cannot be influenced by the action of a specified number of an undertaking.”¹

1.1.1.2.7 By decision relevance

➤ **Sunk cost:**

“it represents historical cost which is irrecoverable in a given situation. They have been already incurred in the past and have no relevance to the present decision.”²

➤ **Opportunity cost:**

“It is the measurable advantage foregone as a result of the rejection of alternative uses of resources, whether of material, labour or facilities.”³

1.1.1.3 Cost Accounting

In 1760, during the Industrial Revolution, the interest in cost accounting increased. As the factory system ushered in mechanization, simplification, standardization, and mass production, costing methods had to evolve with these developments. Prior to the 18th century, cost accounting was primarily handled by engineers, but its integration with financial accounting commenced when accountants took on the responsibility of auditing the cost records. Initially, cost accounting was primarily seen by financial accountants as a tool for inventory valuation and profit measurement. However, it wasn't until the 20th century that it gained an independent discipline.⁴

1.1.1.3.1 Definition of cost accounting

The Chartered Institute of Management Accountants in England (CIMA) defines Cost Accounting as: *“the process of accounting for cost from the point at which*

¹*Idem.*

²Bhabatosh Banerjee (2021), *Cost Accounting Theory and Practice*, PHI Learning Private Limited, Delhi, p. 5.

³*Idem.*

⁴Kirti Pandey (2016), *Cost Accounting*, Laxmi Book Publication, Solapur, p. 2.

expenditure is incurred or committed to the establishment of its ultimate relationship with cost centres and cost units.”¹

“Cost accounting is a specialized branch of accounting which assists management to control costs and to create an awareness of the importance of cost to the well-being of the organization.”²

According to L.C. Cropper, *“Cost Accounting means a specialised application of the general principles of accounting in order to ascertain the cost of producing and marketing any unit of manufacture or of carrying out any particular job or contact.”³*

1.1.1.3.2 Objectives of cost accounting

The main purposes of cost accounting are as follows:⁴

➤ **Ascertainment of cost:**

The primary goal of Cost Accounting is to determine the cost of units, functions, processes, and services. To achieve accurate cost determination, the process involves cost analysis, collection, classification, and expenditure tracking. Costing is not limited to production but is also relevant at various stages of the production process.

➤ **Fixation of selling price:**

The selling price can be established by estimating costs at the time of quotation and implementing cost control measures to maximize profitability.

➤ **Cost control:**

Cost control is another important aspect, which involves managing the stock of raw materials, work-in-progress, consumable stores, and finished

¹M.C. Shukla et al (2013), *Introduction and elements of cost* [Cost accounting text and problems], S. Chand & Company PVT.LTD., New Delhi, p. 5.

² Kirti Pandey , Op.Cit. p.3.

³Arora M.N (n.d.), *Cost Accounting: Principles & Practice*, 13th Edition, Vikas Publishing House, India, p. 4.

⁴Rajendra khatik et al (n.d),*Cost Accounting: An Introduction*[Cost Accounting], Ram Prasad Publications RPH, Agra, p. 2.

goods. The aim is to minimize the amount of capital invested in these stocks.

➤ **Ascertainment of profit:**

Another objective is to ascertain the profitability of each product, providing management with insights on how to maximize profits.

➤ **Cost reduction:**

Cost reduction is a continuous effort that should be implemented from the beginning, and it is defined as “the achievement of real and permanent reduction in the unit cost of goods manufactured or devices rendered without impairing their suitability for the use intended or diminution in the quality of the product.”¹

➤ **Compliance with legal requirements:**

Governments have mandated companies to maintain cost accounts for their business operations. This ensures that the legal objectives of the business are met. This ensures that the legal objectives of the business are met.

➤ **Providing basis for business policy and decision making:**

The information contained in Cost Accounting helps in determining costs and formulating effective business strategies and policies for future decision-making.

1.1.1.3.3 Functions of cost accounting

The main functions of Cost Accounting are:²

- Providing comprehensive guidance in all aspects of business operations and decision-making.
- Making pricing products easier.
- Identifying sources of waste in production processes and showing economic opportunities.
- Ensuring efficient use of resources.
- Enabling management to determine the profitability of each product.

¹Samir Kumar Chakravarty (2004), Cost Accounting and Financial Management, New Age International (P) Ltd Publishers, New Delhi, p. 9.

² R.S.N Pillai et al (2008), *Introduction* [Cost Accounting], S. Chand & Company LTD, New Delhi, p. 5-6.

- Providing insights into future expansion policies.
- Playing a central role in organizing cost reduction programmes.
- Facilitating business planning and control.
- Maintaining costs at optimal levels while implementing systems such as budgetary control and standard costing.

And also:¹

- The purpose is to examine and categorize the spending related to different operations.
- Maintaining a continuous record of inventory for supplies and other materials, enabling the seamless creation of interim Profit and Loss Account and Balance Sheet reports without the need for physical stock-taking.
- Explaining the factors that contribute to the profits or losses that are disclosed in the Income Statement or Profit and Loss Account.

1.1.2 Theoretical framework of cost reduction

Cost reduction theory helps organizations identify and address inefficiencies and wasteful spending in a structured way. It draws from cost accounting, economics, and management theory to understand factors influencing costs and strategies to reduce them. The focus is on continuous improvement and efficiency to improve performance and competitiveness.

1.1.2.1 Definition of cost reduction

Cost reduction, as defined by the Chartered Institute of Management Accountants (CIMA) in London, “*the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without damaging the ability of the product to serve the purpose for which it was intended.*”²

Cost reduction is a systematic method to decrease expenditure, a continuous process that critically examines all cost elements and business aspects to enhance efficiency.

¹ R.N Khandelwal (2022), *Cost Accounting According To NEP 2020*, SBPD Publications, India, p. 7.

²Ben-Caleb Egbide et al (2019), *Cost reduction strategies and growth of selected manufacturing companies in Nigeria*, International Journal of Mechanical Engineering and Technology, 10,03, pp. 196–203, p. 197.

It is a corrective function, aiming to cut down costs for profit, starting when cost control ends and considering no cost is at its optimum limit.¹

1.1.2.2 Elements of cost reduction

1.1.2.2.1 Operational costs

Reducing costs is possible by cutting out unnecessary steps, closing operational gaps, and streamlining the process to progress in a more organized, linear way instead of moving erratically around the facility. Operational optimization involves designing both the process and the manufacturing facility.²

1.1.2.2.2 Supply chain costs

Many businesses restrict their concept of cost to expenses incurred inside the four walls of their establishment. Companies may learn from past supply chain modifications and prevent repeating the same mistakes in future change initiatives by utilizing SCC to assess reductions in costs and improvements.³

1.1.2.2.3 Labour costs

The total cost of using labour as a component of production is known as the labour cost. Reducing or eliminating bonus payments, cutting non-pay perks, altering shift assignments, and slowing down or stopping the rate at which promotions are granted are a few tactics for cutting labour expenditures. Hire new workers at a lower pay scale than those who quit on their own will, and promote early retirement to replace highly compensated staff with new hires making a lower salary.⁴

¹IGANIBO et al (2023), *Digital security: The administrative efficiency index of local government area in rivers state*, Journal of Office and Information Management, 1,7, pp. 53-65, p. 57.

²Joseph Berk (2010), *Cost Reduction and Optimization for Manufacturing and Industrial Companies*, Scrivener, Canada, p.142.

³Annelie I. Pettersson (2013), *To Evaluate Cost Savings in a Supply Chain*, Operations and supply chain management, No. 3, Vol. 6, pp. 94-102, p. 95.

⁴Jan Babecký et al, *The margins of Labour Cost adjustment Survey evidence from European firms*, <https://www.oecd.org/els/emp/46223214.pdf> [19/04/2024 at 11:20 am].

1.1.2.2.4 Overhead costs

General and administrative functions, or overhead, can include general management, sales, procurement, quality assurance, and other areas. Numerous expenditures (such as office supplies, utilities, etc.) fall within the overhead category in addition to these sectors. Any expenditure that is not specifically and immediately related to a product line is often included in the overhead and general administrative categories. Any attempt to reduce expenditures must focus heavily on lowering these expenses. Establishing an activity-based overhead budget and monitoring performance are important. The headcount in direct charge groups and overhead groups should be determined in the same way. With this method, tasks are identified, their respective times are calculated, and the total time is converted to a headcount.¹

1.1.2.2.5 Inventory costs

Manufacturers may produce more components than they require because they anticipate rejecting some. This kind of thing happens frequently, and the main cause of it is that many individuals find it easier to place orders for additional inventory rather than identify and resolve the issues that are causing the yield to be less than 100%. Inventory is being used to hide the issue.

Here, there is a clear possibility to reduce inventory costs. It is necessary to identify the underlying causes of the rejection to find and eliminate the overbuilding factors. The additional inventory is not needed once this is completed. Reducing rejections can significantly reduce costs. To accelerate the disposal of rejected material, this reduces inventory costs and minimize manufacturing process disruptions. Some companies require immediate disposition of rejected items, eliminating the need for storage areas and reducing the need for rejected-item inventory.²

¹Joseph Berk, op.cit., p.222.

²Ibid, p.103-104.

1.1.2.2.6 Marketing costs

Marketing expenditures can have a significant impact on corporate sales, making it challenging to analyse them rigorously. However, incremental advertising analysis can help direct funds towards activities with the greatest positive impact. Marketing efforts can be associated with a company, product line, or individual products. If a company has numerous subsidiaries or products, it must distribute its marketing activities thinly. A cost-effective alternative is to reduce the number of these categories, allowing the same amount of marketing dollars to be concentrated on fewer subsidiaries, product lines, or products. Incremental advertising analysis can help prevent overspending. Identifying which types of marketing impact customers is difficult, but asking customers where they heard about the company can help determine which ones have minimal impact. Eliminating expenditures if no paying customer claims to have heard about a specific type of marketing is reasonable. Cost cutting is often misused in establishing new markets and products, requiring significant funds to create awareness and marketing expenditures that can effectively stifle potential prospects. ¹

1.1.2.3 The need for cost reduction

For a company aiming to maintain long-term competitiveness, implementing a continuous cost reduction program becomes imperative, as it is susceptible to various challenges that can detrimentally affect its profitability, as explored in the following points:

1.1.2.3.1 Revenue decline

A company's expenses must decrease in order to keep up with any significant price drops in its goods and services. During recessions, firms frequently implement cost-cutting measures to preserve profit margins by reducing operational expenses. The goal of cost reduction is to maintain or increase revenue without risking the company's potential for future growth. But since the

¹STEVEN M. BRAGG (2010), *Selling and Marketing Cost Reduction* [Cost Reduction Analysis Tools and Strategies], John Wiley & Sons, Inc, New Jersey, 2010, p.58-59.

latter is a profit-oriented approach by definition, it encourages revenue protection over riskier growth strategies. However, companies are required to keep looking for creative new development opportunities while also implementing cost reduction strategies.¹

1.1.2.3.2 Fixed cost based

A business may have an excessively high fixed cost base for a variety of reasons, such as a fixation on high automation levels or the fact that a competitive market demands a big amount of equipment. A corporation with a high fixed cost base must utilize a comparatively large portion of its capacity in order to make a profit. This is a significant issue in businesses where there is a high fixed cost base since, in an industry downturn; everyone will be trying to maintain high-capacity levels, which will result in sharp price drops. An effective strategy to stay out of this trap is to launch a persistent and focused cost-cutting drive. A firm that has a smaller fixed cost base than its rivals will withstand an industry slump considerably better and could even be able to acquire any rivals that have not had the foresight to launch an aggressive cost reduction campaign at the same time.²

1.1.2.3.3 Complexity

Managing complex organizations requires a lot of administrative oversight and management, which leads to higher costs. This is because there are multiple layers of management that need coordination, resulting in increased expenses for salaries, benefits, and support. Also, overseeing cross-functional teams within these structures requires resources and effort, adding to the administrative workload and costs. In order to address these challenges and lower overhead costs, organizations can implement cost reduction initiatives to streamline administrative processes, eliminate unnecessary tasks, and simplify organizational structures. By reducing bureaucratic obstacles and improving

¹Clinton Macdonald (2015), *Managing the dilemma of balancing revenue growth and cost containment*, Gordon institute of business science, Master thesis, Pretoria, p.117.

²STEVEN M. BRAGG, op.cit., p. 4-5.

operational efficiency, companies can allocate resources more effectively and enhance cost-effectiveness without sacrificing organizational effectiveness.¹

1.1.2.3.4 Creeping costs

Creeping costs refer to the gradual accumulation of overall costs over a period, representing a persistent problem that diminishes an organization's capacity to function and cannot be readily identified in the short term. These costs do not arise suddenly, which management may not be enthusiastic about taking action against them. Consequently, extensive measures will be required to restore previous levels of profitability, as the organization lacks a genuine, impactful, and continuous strategy to reduce the upward trend of expenses.²

1.1.2.3.5 The simplicity of cost reduction compared to the revenue increase process

The process of cost reduction is the easiest way to increase short-term expected profit and the main driver of long-term growth if the reduction methodology is properly implemented and accurate. This is because the cost reduction process is entirely under the control of the organization, starting from identifying the cost reduction scope to executing the reduction strategy. Cost reduction differs from revenue increase processes through the use of various methods, which may include uncertainties in their application such as pricing, contribution margin determination, competitor reactions, and government interests. Therefore, cost reduction is considered one of the simplest ways to enhance competitiveness and improve cash flows.³

1.1.3 Cost reduction tools

There are multiple tools that a company can employ to achieve the first option, which is to decrease or resize costs. The company must choose the appropriate tool, knowing that it can use some of these tools individually or several tools simultaneously. Given the wide

¹Idem.

²اميمة رزق على الجيوشي(2019), ,دراسة انتقادية لألساليب التكاليفية المستخدمة في تخفيض التكاليف بالمنظمات الصناعية,مجلة البحوث المالية و التجارية, العدد الرابع,المجلد 20,ص.53-74, ص.58

³Idem.

variety of these available support tools, we will focus on the most commonly used tools by companies, including Value engineering, Kaizen, Activity-based management, and Total quality management.

1.1.3.1 Value engineering

1.1.3.1.1 Definition of VE

Value engineering calls for close consideration of any action that will result in a lower product cost, including the elimination of production functions, cheaper-to-manufacture product designs, planned reductions in product durability to save costs, fewer features, less expensive parts, and so forth. The team must also validate the expenses of this procedure with the vendors of the components that were outsourced and raw materials, as well as with the internal processing costs.¹

1.1.3.1.2 Concept of VE

For identifying and eliminating unnecessary costs, a cohesive plan must be developed, consisting of specific steps that must be followed to ensure that the VE methodology is implemented effectively.

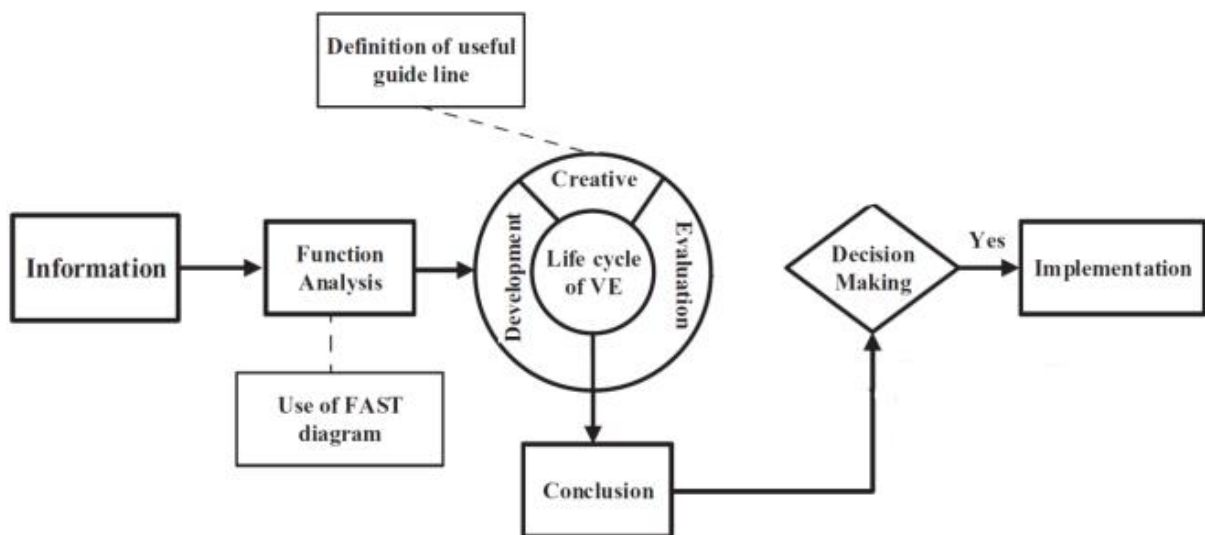
- **The information phase:** the VE team must gain a thorough understanding of the project's objectives, technical specifications, plans, and constraints. This involves studying the original design, as well as any designs that were prepared by consultants prior to the application of the VE approach. By understanding the project's underlying goals and requirements, the VE team can better identify areas where cost savings can be achieved without compromising on performance.
- **The function phase:** the project's functions are identified in order to determine which areas can be streamlined to reduce costs. Functions can be divided into two groups: basic functions and secondary functions. Basic functions are the essential performance features that must be achieved, while secondary functions are those that add value to the project by providing additional benefits. By identifying all of the project's functions

¹STEVEN M. BRAGG, op.cit., p. 62

and prioritizing them in terms of importance, the VE team can develop a plan to optimize the project's performance while minimizing costs.

- **The speculation phase:** the team brainstorms alternative designs and approaches that can be used to achieve the project's functions more efficiently. This involves encouraging the free flow of ideas and allowing team members to propose even the most unconventional or seemingly ridiculous ideas. By thinking outside the box and exploring all possible options, the team can identify innovative solutions that can lead to significant cost savings without compromising on the project's objectives.
- **Development phase:** the ideas that have been identified as viable are developed into proposals. Alternative designs are also made during this phase to ensure that all possibilities are explored.
- **The decision phase:** the decision-making process should be objective and based on the merits of each proposal. Personal biases should be set aside to ensure that the best proposal is chosen.¹

Figure 1: Different steps of VE practice



¹Ahmed M Selim.(2017), *Value Engineering (VE) Application in Infrastructure Projects by Public- Private Partnerships*, International Journal of Applied Engineering Research, 20, 12. pp.10367-10375, p10370

Source: Ahmed M Selim.(2017), *Value Engineering (VE) Application in Infrastructure Projects by Public- Private Partnerships*, International Journal of Applied Engineering Research, 20, 12. pp.10367-10375, p10371

1.1.3.2 Kaizen

1.1.3.2.1 Definition of Kaizen

Jean Chalvidant, Emmanuel Le Gouguec, Olivier Brongniart (2003) “*Kaizen signifie littéralement « philosophie (zen) de l’amélioration (kai) » . Les principes sont la recherche d’une amélioration continue, graduelle, « à petits pas », impliquant l’ensemble des équipes.*”¹

According to the explication d'Amla Horath (1996) “*Kaizen costing means the complete utilization of cost reduction potentials. This utilization is realized by matching, little by little, innovative leaps that are initiated by target costing with continuous improvement.*”²

1.1.3.2.2 Concept of Kaizen

The Japanese word "kaizen costing" refers to a series of cost-cutting measures that may be implemented when a new product design is shown to the sales floor, these days, Japan uses it extensively in a variety of sectors, including electronics, precision manufacturing, and autos. The elimination of waste during production, assembly, and distribution operations as well as the elimination of work stages in any of these sectors are some of the tasks included in the kaizen costing technique. For as long as a product is produced, kaizen costing replicates many of the value engineering procedures employed in the initial creation of the product, continuously refining the process and eliminating unnecessary expenses in the process. Although kaizen costing provides much fewer cost savings than value engineering, it is still well worth the effort because competitive pressures

¹Jean Chalvidant, Emmanuel Le Gouguec (2003), *LA SOLUTION EST DANS L'ATELIER... L'AXE PROCESS [GUIDE PRATIQUE DE LA RÉDUCTION DES COÛTS]*, Olivier Brongniart, Paris, p.148.

²Patrick Feil et al (2004), *Japanese Target Costing: A Historical Perspective*, International Journal of Strategic Cost Management, No. 4 ,Vol. 32, pp10-19, p.16.

will eventually drive product prices lower. Any further cost savings enable a business to maintain its desired profit margins.¹

Everyone in the firm is encouraged to engage in Kaizen activities as the Kaizen method demands employee participation. There are three main parts to Kaizen:²

- **Perceptiveness:** Every Kaizen initiative starts with an issue that has been recognized. If no issues have been found, Kaizen is possible.
- **Idea development:** Multiple people must contribute more creative ideas at this stage, which is why it's critical to establish a Kaizen focus team to address the identified issue. Bringing together individuals who operate in the problem area is crucial to the team assembly process so that they may collaborate as a creative unit.
- **Choice, application and result:** Kaizen is only useful inasmuch as it is put into practice. During the process of making decisions, the group determines what shows.

1.1.3.3 Activity-based management

1.1.3.3.1 Definition of ABM

“Il semble possible de définir l’ABM comme une méthode de management de l’entreprise qui doit permettre un pilotage stratégique de l’organisation dans le but d’améliorer la performance par des démarches de progrès continu.”³

The term "activity-based management," or "ABM," refers to the whole range of decisions that may be made using activity-based cost information to help make better decisions. By using ABM, a business may achieve its goals with less strain on its organizational resources, allowing it to reach the same goals (like revenues) at a lower overall cost (less money spent on organizational resources).⁴

¹Steven M. Bragg , op.cit., p. 67-68

²*Idem.*

³Claude ALAZARD et Sabine SÉPARI (2010), *Le pilotage par activités : management par activités (ABM)*, Contrôle de gestion manuel et application, edition francis lefebvre la solution juridique, paris

⁴Robert S. Kaplan, Robin Cooper (1998), *Activity based management: operational application*, [Cost & effect: Using integrated cost systems to drive profitability and performance], Harvard Business School Press, USA, p. 137-138.

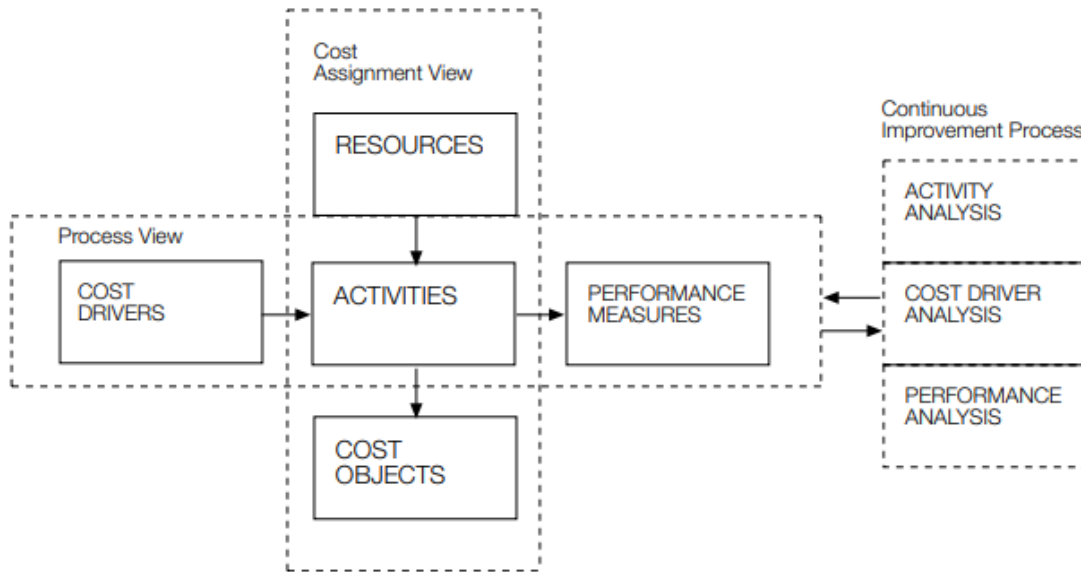
1.1.3.3.2 Concept of ABM

The concept of ABM is illustrated in the following steps:¹

- **Develop a clear mission:** What is the organization's purpose
- **Identify the fundamental operations:** Which operations are essential to the organization's mission? What are the items that will ultimately incur costs?
- **Determine the auxiliary operations:** What operations support the fundamental operations, such as certain administrative tasks?
- **Establish the teams responsible for the operations:** Each team consists of employees who are trained or will be trained to complete the activities within each operation.
- **Establish the main operational goals:** How can the long-term strategies and objectives be achieved?
- **Developing the primary activities within each operation:** What are the tasks that encompass each operation? In ABM terminology, these are referred to as activity centres.
- **Develop key performance indicators for each operation and activity:** How should performance for each operation and activity center be measured? The performance indicators may include both financial and non-financial measures.
- **Determine the factors that drive costs for each activity:** What is causing resources to be consumed by each activity and cost object?
- **Take measures to ensure the acceptance of the new system comprehend the output of a system.**

¹ John M. Trussel et al (1998), *Strategic cost management: an activity-based management approach*, Management Decision, 07, 36, pp.441-447, p.442.

Figure 2: ABM model



Source: J A Miller (1996), *Activity-based management model: Implementing Activity Based Management in Daily Operations*, John Wiley & Sons, USA, p.2361

1.1.3.4 Total Quality Management

1.1.3.4.1 Definition of TQM:

It is a way to organize, coordinate, and understand every task by relying on people at every level. For a company to run smoothly all parts need to work together towards common goals, recognizing that each person and task can affect and be affected by others.¹

It stands for an integrated method to operating a company with a focus on customer satisfaction and quality. The relentless global rise in commercial competitiveness necessitates that businesses always work to strengthen the effectiveness of their operations.²

- **What is quality?**

¹John S. Oakland (2014), *Total Quality Management and Operational Excellence Text with Cases*, Taylor & Francis, London p. 32.

²Boukhadra Meriem et al (2020), *Business process Reengineering and Total Quality Management Together Better Study Case: The Toyota production system* Economic and Management Research Journal, No.3, Vol 14, pp. 289-308, p. 294.

'Excellence' in a product or service is often denoted by the term "quality." The term may be used in some manufacturing contexts to signify that a material or part of machine satisfies specified physical dimensions requirements, frequently expressed as a particularly "tight" standard. In a management concept quality is satisfying the needs of the consumer in a product or service.¹

1.1.3.4.2 Concept of TQM:

The next operations contribute to follow a TQM concept in the enterprise:²

- **Training:** During the decision-making process concerning the implementation of a Total Quality Management program, management evaluates various factors. Through strategic deliberation, management weighs the advantages of TQM, such as improved efficiency, enhanced product/service quality, and strengthened customer relationships, against potential challenges like initial investment costs, resistance to change, and time constraints. Ultimately, the decision to pursue a TQM program hinges on aligning organizational goals with the principles of continuous improvement and customer focus, ensuring long-term sustainability and success.
- **Planning:** by developing a clear vision and defining objectives that align with the organization's values and goals. Subsequently, they craft organizational policies that reflect these objectives, ensuring consistency and coherence across all departments. Adequate resources are then allocated, encompassing financial, human, and technological aspects, to support the implementation process. Effective communication throughout the organization fosters understanding and buy-in from all stakeholders. Simultaneously, a detailed implementation plan, inclusive of budget allocation and programming timelines, is meticulously crafted. Infrastructure and resources are carefully assessed and optimized to facilitate seamless execution of the TQM program.
- **Evaluation:** During this pivotal stage, a comprehensive self-assessment unfolds, drawing insights from multiple sources including feedback from the customer organization, the distinctive traits of employees, and the overarching

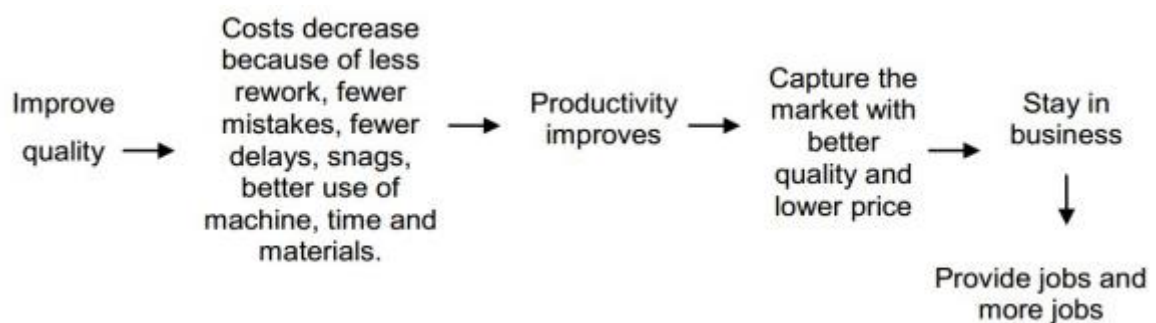
¹John S. Oakland , op.cit., p. 3.

²Stegerean.R et al, Implementing tqm in hotel industry ,<https://www.proquest.com/conference-papers-proceedings/implementing-tqm-hotel-industry/docview/1211089288/se-2> [20/04/2024 at 00:45].

organizational structure. By delving into the intricacies of customer feedback, management gains invaluable perspectives on areas for improvement and avenues for enhanced service delivery. Simultaneously, an introspective examination of employee characteristics unveils strengths to leverage and areas for skill development. Furthermore, evaluating the organization as a cohesive entity sheds light on its operational dynamics, enabling tailored strategies for integration and optimization.

- **Implementation:** in this phase both staff and managers undergo comprehensive training within the organization. Emphasizing societal impact, employees are educated on how TQM aligns with broader societal values and expectations. Clear delineation of roles and expectations equips individuals with a profound understanding of their responsibilities within the TQM framework, fostering a sense of ownership and accountability. This training ensures that every member of the organization is empowered to actively contribute to the realization of TQM principles, driving collective success and sustainable growth.
- **Diversification:** During this stage, managers leverage their expertise to seamlessly integrate external groups such as suppliers, distributors, and key business partners into the quality management process. Drawing from past experiences and best practices, they foster collaborative relationships that prioritize quality across the entire value chain. By aligning objectives and sharing insights, managers ensure that external stakeholders contribute positively to the organization's overarching quality goals, ultimately enhancing operational efficiency and customer satisfaction.

Figure 3: Impact of an effective quality Management programs on reducing non-conformance



Source: Behnam Neyestani, Quality Costing Technique: An Appropriate Financial Indicator for Reducing Costs and Improving Quality in the Organizations, <https://mpr.ub.uni-muenchen.de/77375/> , [03/05/2024 at 14:17]

In conclusion, this section has provided a comprehensive overview of costs, their classification, and the importance of cost reduction strategies within organizations. We began by defining costs and exploring their various classifications, laying the foundation for understanding their significance in business operations. Subsequently, we delved into the concept of cost reduction, elucidating its definition, key elements, and the imperative need for its implementation in today's competitive landscape.

Furthermore, we examined several prominent cost reduction tools, namely Value Engineering (VE), Kaizen, Activity-Based Management (ABM), and Total Quality Management (TQM). These tools offer diverse approaches to streamline processes, enhance efficiency, and optimize resource allocation, ultimately contributing to improved profitability and sustained growth.

By incorporating these cost reduction methodologies into their operational frameworks, organizations can proactively address cost inefficiencies, mitigate risks, and foster a culture of continuous improvement.

1.2 Hidden costs approach

Hidden costs are often unnoticed in organizational operations until they cause inefficiencies or financial problems. These hidden expenses arise from various issues within the system, such as poor communication, wasted resources, and inadequate processes, and can be missed without careful examination. Identifying these hidden costs is crucial for businesses aiming to be efficient and profitable.

In this section, we will discuss what hidden costs are and where they come from, following Henri Savall's insights. We will also explore how to evaluate these costs and implement strategies to reduce them, ultimately improving organizational performance and profitability.

1.2.1 Dysfunctions and hidden costs

Understanding and addressing the hidden costs is essential for businesses seeking to optimize their operations and fix their dysfunctions to achieve sustainable success.

1.2.1.1 Definition of dysfunctions and hidden costs

A dysfunction, according to the French dictionary, “refers to a deviation or lack in the application of standards, indicating a poor state of operation and non-compliance with procedural manuals. The identification of anomalies during work execution reflects a failure to utilize resources properly.”¹

Hidden costs are the “costs that are not being detected by accounting but are important to the management process. The difficulty in recognizing them lies in perceiving their origin and nature. Concerning the origin of the hidden cost, it refers to elements that may comprise administrative subprocesses, such as audit processes”.²

1.2.1.2 Origine of hidden costs

In the mid-1970s, research conducted by ISEOR unveiled the intricate relationship between dysfunctions, hidden costs, and the overall economic performance of

¹ Elktiti Lahoussine et al (2022), *Dysfunctions revealing hidden costs-performance in SMEs: Review of the literature*, Journal of Economics Finance and Management Studies, Number 1, Vol 5, pp 3821-3827, page 3822.

² Monteiro Alexandre Fernandes et al (2020), *Hidden costs: a case study in an internal audit unit of the public sector*, Journal of Accounting Management and Governance, Number 2, Vol 23, pp 276-293, page 278.

enterprises. This research delved into the root causes of hidden costs, focusing on both organizational structures and the behaviours exhibited by individuals within the company.

Figure 4: The fundamental hypothesis



Source: Savall Henri, Zardet Véronique (2008), *The origin of hidden costs* [Mastering Hidden Costs and Socio-Economic Performance], Research in management consulting, Information Age Publishing, United States. Page 8.

1.2.1.2.1 Structures

The set of elements in the organization that exhibit the two properties of persistence and cogency, typical of structures, can be classified into five categories:¹

- **Physical Structures:**

Physical structures refer to the characteristics of a space, including its volume and atmosphere. They can be identified directly or indirectly through indicators like noise, heat, fatigue, stress, illnesses, and accidents. The effectiveness of human activity is influenced by physical structures, among other factors.

- **Technological Structures:**

Technological structures, on the other hand, involve various types of equipment that are classified based on their complexity, sophistication, and economic value. These structures can be analysed based on their objective effects on human behaviour, such as the level of dependence on machines or ergonomic constraints like repetitive gestures or monotonous tasks.

- **Organizational Structures:**

¹Savall Henri, Zardet Véronique (2008), *The origin of hidden costs* [Mastering Hidden Costs and Socio-Economic Performance], Research in management consulting, Information Age Publishing, United States, pp. 9-12.

Organizational structures arise from the division of labour within a company and the functional relationships between different units and individuals.

The adjustment of an employee's training and job has a significant impact on their interest in the work. Work relationships, both in terms of communication and emotions, also play a role in the structure of an organization. These relationships can lead to tension and conflict, but there are procedures in place to regulate them. It is important to note that organizational structures are influenced by socio-cultural factors rather than scientific laws.

- **Demographic Structures:**

Demographic structures, such as professional position, age, gender, and education, can also affect human behaviour, including professional ambitions and competency.

- **Mental Structures:**

These are the enduring elements that define the way the organization thinks, including the management approaches set by top-level executives, prevailing ideas that shape decision-making, and the overall mindset and work environment among staff members.

1.2.1.2.2 Behaviours

Human actions are the observable behaviours that impact the physical and social environment. These actions are different from attitudes, which are potential behaviours or long-lasting personality traits. Attitudes manifest as observable behaviours when faced with specific events. They are part of an individual's psychological makeup. Behaviours are influenced by various factors, such as attitudes, and are characterized by their situational and relatively unstable nature.

For instance, the same person can exhibit five different behavioural patterns depending on the situations they encounter and the nature of the problems they face:¹

- **Individual logic**

¹ *Ibid*, p. 13-14.

Individual behaviour is influenced by the person's personality, professional qualities, and personal life, including family dynamics. This leads to relatively autonomous actions.

- **Group activity logic**

Group behaviour is determined by the person's membership in a particular department, workshop, or organization. For example, one may adopt behaviours typical of production personnel when interacting with sales personnel or behave like a head-office representative rather than a branch-office member.

- **Categorical logic**

Professional category behaviour reflects the person's belonging to a specific professional category, which shapes their behaviour.

Various types of issues impact the entire professional category. These problems can involve questioning one's authority or style of leadership.

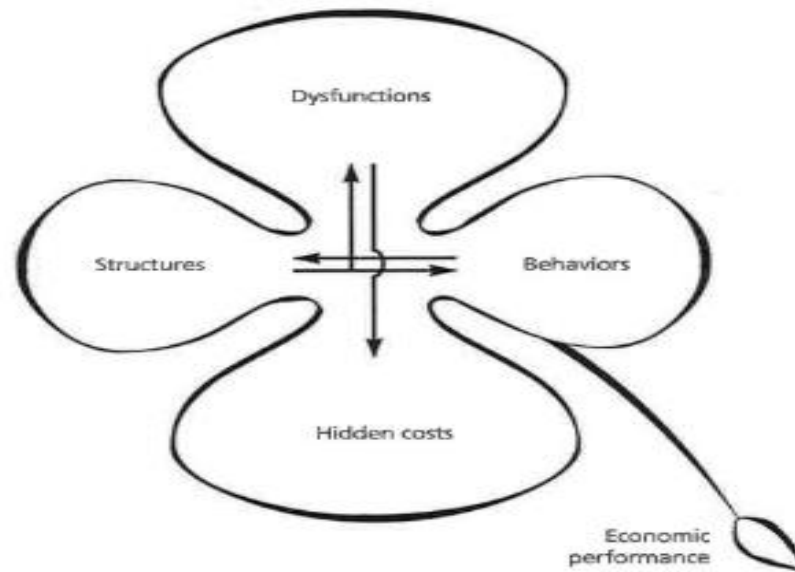
- **Affinity group logic**

Another way to understand individual behaviour is through affinity group logic. This means that a person's actions are influenced by their membership in a particular group, whether it's within the company or outside of it.

- **Collective logic**

There is also collective logic, which occurs when all employees of a company behave as if they were a single entity. This type of behaviour is rare and usually arises when there are significant threats to the survival or growth of the company.

Figure 5: The socio-economic four-leaf clover



Source: Huang, Tony, et al (2023), What has digital transformation changed? A Chinese Case Study of Hidden Costs Using a Socio-economic Approach to Management, *Revue Française de Gestion Industrielle*, Number 1, Vol 37, pp. 41-54, p. 43.

A technique for socio-economic analysis was created by Savall and Zardet. Three fundamental techniques are used in this process: dysfunction analysis, hidden costs assessment and job-training adjustment (competency grids).

Additionally, they portrayed the precise connections between the appropriate components that needed to be examined (dysfunctions, structures, behaviours, and hidden costs) in the model of the socioeconomic four-leaf clover that is shown in **Figure 5**.¹

1.2.1.3 Components of hidden costs

The evaluation of hidden costs in the stage of assessing regulations is based on a classification that consists of six components. The first component, known as overconsumption, involves assigning a financial value to the quantities of products consumed based on the actual prices paid by the undertaking. The second component involves translating human activities related to regulation into monetary terms, using units of time such as hours and minutes. This is done by calculating the hourly contribution to the margin on variable costs. Two types of activities are considered: overtime, which includes regulatory tasks like making phone calls or training temporary employees, and

¹ Huang, Tony, et al (2023), *What has digital transformation changed? A Chinese Case Study of Hidden Costs Using a Socio-economic Approach to Management*, *Revue Française de Gestion Industrielle*, Number 1, Vol 37, pp. 41-54, p. 43.

non-production, which refers to periods of inactivity or work interruptions caused by malfunctions such as machine failures, stock breakdowns, or accidents.¹

When a task is performed by a person in a higher-paid position than the one who should have accepted it, salary discrepancies are used to calculate human time; these components are known as surcharges.

The term "non-creation of potential" is used to calculate the human-time cost of intangible investment actions that the company is unable to carry out over a given period because its actors have been overwhelmed by malfunction regulation.

The last hidden cost component gathers together the risks associated with malfunctions.²

1.2.1.3.1 Historical costs

Expenses incurred by a company and included in the visible costs are known as historical costs. However, because of their absence of a particular classification and distribution among other expenses that are frequently recognized within the accounting systems used by the company, they were considered as hidden costs.

- **Overconsumption:**

The amount of goods and services used in addition to controlling the company's dysfunctions. (Ex: in a clothing company, quality defects caused by poorly adjusted machines have led to overconsumption of fabric at a rate of 8% of production).³

- **Overtime:**

They stand for the time lost on controlling dysfunctions rather than spending that time producing a solvent. (Ex: in a manufacturing electronic devices company, 30% of line managers' time is devoted to regulating the quality defects) Overtime is evaluated by the hourly contribution to the margin on variable costs (HCMVC)

¹ Savall Henri, Zardet Véronique (2008), *Evaluating hidden costs* [Mastering Hidden Costs and Socio-Economic Performance], Research in management consulting, Information Age Publishing, United States, p. 28-29.

² Savall Henri, Zardet Véronique (1995), *Les couts cachés sont élevés* [Maitriser les couts et les performances cachés 3eme édition], Gestion, Economica, Paris, p. 128-128.

³ Mahloul Zakaria et al (2021), *Good practices of HRM, what contribution to reduce costs*, Revue Organisation & Travail, Number 2, Vol 10, pp (320-337), p. 323.

This is calculated as follows:

Turnover (revenue sales) - Variable costs = Margin on variable costs (MCV)

Hourly contribution to the margin on variable costs (HCMVC) = Variable cost margin (MCV) / Number of expected hours ¹

- **Over salary:**

These are the components of remuneration and related costs that are paid without regard to activity counterparts or, in the case of a function change, the salary difference between the incumbent and his temporary substitute. Overtime is valued based on the hourly contribution to the margin on variable costs concept rather than the salary cost. By reducing the scope of dysfunctions, businesses and organizations may be able to avoid these three costs, at least in part. We refer to them as overcharges.²

1.2.1.3.2 Opportunity costs

- **Non-production:**

This charge does not indicate a financial loss, but rather the potential loss of profits from missed chances to create and sell a product or service. These missed opportunities can arise from issues such as machinery breakdowns, stock shortages, or work-related accidents. Similar to overtime, the value of non-production is calculated based on the hourly contribution to the profit made from variable costs.³

- **Non-creation of potential:**

It doesn't equate to a charge. It demonstrates how the organization's current dysfunctions, which dominate its means and resources, lead performances to being delayed due to the non-realization of intangible investments.⁴

- **Risks:**

¹*Idem.*

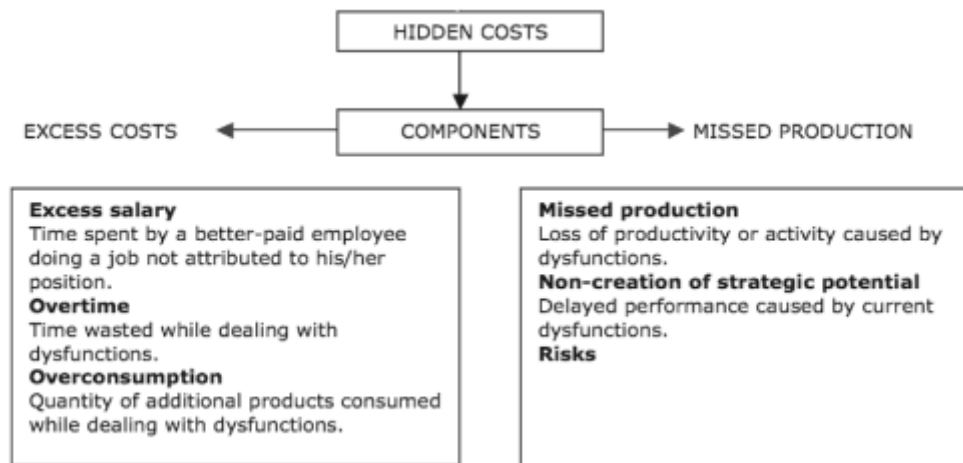
²*Idem.*

³Mahloul Zakaria et al (2021), *The impact of good human resource management practices (GHRMP) in reducing hidden costs and improving the overall performance of organizations-IRIS case study*, Journal of Economic Sciences Institute, Number 2, vol 24, pp (797-818), p. 801.

⁴*Idem.*

These refer to the negative consequences that may arise from the presence of dysfunctions.¹

Figure 6: Components of hidden costs



Source: Savall Henri, Zardet Véronique (2008), *Introduction* [Mastering Hidden Costs and Socio-Economic Performance], Research in management consulting, Information Age Publishing, United States, p. xxiii.

1.2.2 Hidden costs indicators

According to the study of Henri Saval and Zardet Véronique, there are five indicators:

1.2.2.1 Absenteeism indicator

The absenteeism indicator is a metric used to measure the frequency and extent of employee absences within an organization over a specific period.

1.2.2.1.1 Definition of absenteeism

The concept of absenteeism is multifaceted, as there are many different definitions:

The traditional definition of employee absenteeism according to Martocchio, J.J. (1989), is the “*lack of physical presence at a given location and time when there is a social expectation for the employee to be there.*”¹

¹*Idem.*

Sikorki (2001) characterizes absenteeism as “*the condition where an employee is either physically absent, uninvolved, inattentive, or preoccupied with other tasks within the organization.*”²

Absenteeism therefore implies “*an unplanned, disruptive incident; but more specifically, it can be seen as non-attendance when an employee is scheduled for work*” (Van der Merwe & Miller, 1988)³

1.2.2.1.2 Types of absenteeism

Absenteeism is often classified into different categories or types, each delineating specific aspects or causes of absentee behaviour:

- **Voluntary Absenteeism:** Voluntary absenteeism is “*viewed as the behavioural response to discouraging working conditions.*”⁴
- **Involuntary Absenteeism:** Involuntary absenteeism is when “*employees are unable to attend work due to reasons that are beyond their control. This type of absence can be caused by various factors such as illness, injury, family emergencies, or even natural disasters*”.⁵
- **Authorized Absence:** According to Karimbil (2019), authorised absenteeism is “*when the employee is not at work with the permission of a superior. This type of absenteeism is planned and can be managed appropriately*”⁶

¹ Internet Public Library IPL, *Absenteeism literature review*, <https://www.ipl.org/essay/Absenteeism-Literature-Review-F32UEY3RJ486> [02/04/2024 at 20:00]

² Grigore Oana Magda (2020), *Factors contributing to work-related absenteeism during Covid-19 pandemic*, Management dynamics in the knowledge economy, no 4, vol 8, pp.401-418, p. 402.

³Beverley Ann Josias (2005), *The relationship between job satisfaction and absenteeism in a selected field services section within an electricity utility in the western cape*, Thesis submitted in partial fulfilment of the requirements for the degree of master of commerce, Faculty of economic and management sciences, University of the western cape, South Africa, p. 13.

⁴Dirk Hanebuth (2005), *Absenteeism: A cross-sectional study in a high-tech metalworking plant*, Thesis presented for the degree of Doctor of Philosophy, Faculty of Arts of the University of Zurich, Germany, p. 88.

⁵ مباركية تلجة و عبید و داد (2022), *التغيب العمالي و تأثيره على المؤسسة الجامعية دراسة ميدانية على عينة المستخدمين بجامعة برج بو عريريج*, مذكرة مقدمة لنيل شهادة الماستر في علم الاجتماع, كلية العلوم الاجتماعية و الإنسانية جامعة محمد البشير, برج بو عريريج, صفحة 19.

⁶ Mukwevho Harriet et al (2020), *Factors Impacting Employee Absenteeism and The Managers' Perception of its Causes in the Hotel Industry*, African Journal of Hospitality, Tourism and Leisure, No5, Vol 9, pp. 1161-117, p. 1162.

- **Excused Absence:** Absences for which the employee provides a valid reason or excuse such as “*personal sickness, injuries or funeral leave*”.¹
- **Unexcused Absence:** “*Unexcused absences are the cases in which employees intentionally don’t come to work (Blau & Boal, 1987).*”²
- **Legal absenteeism:** “*Legal absenteeism refers to absences that are caused by official religious or national holidays, as justified by the law.*”³
- **Intermittent Absenteeism:** “*Intermittent absenteeism involves employees taking time off in short, irregular increments. This might be due to chronic health conditions or other ongoing issues.*”⁴
- **Presenteeism:** “*Research studies on presenteeism associate the concept with the productivity loss resulting from workers attending work even though they do not feel well*” (Braakman-Jansen, Taal, Kuper & Van de Laar, 2011; Lerner et al., 2012).⁵

1.2.2.1.3 Costs of absenteeism

Costs are divided into costs on the organization and costs on the employees:

- **The costs of absenteeism on the organization:**⁶
 - **Poorly operated costs:** The costs to the company due to poor organization and absence of personnel are reflected in the form of lack of quality, low production and productivity due to the worker's lack of experience in the work entrusted to him or her and the duties of the absent worker.

¹ Duysal Askun Celik et al (2011), The effects of emotional dissonance and quality of work life perceptions on absenteeism and turnover intentions among Turkish call center employees, *Procedia Social and Behavioural Sciences*, No 2011, Vol 30, pp 2515-2519, p.2516.

² *Idem.*

³ بلال فاطمة و بوعلاوي سمية (2020), الغياب و التغيب و اثرهما على الفعالية التنظيمية دراسة ميدانية بالمؤسسة العمومية للصحة الجوارية بادرار, مذكرة مقدمة لنيل شهادة الماستر في علم الاجتماع, كلية العلوم الاجتماعية و الإنسانية و العلوم الإسلامية جامعة احمد دراية, ادرار, صفحة 17.

⁴ Rebaccal A et al (2023), *Impact of employee absenteeism on organisations with reference to lion dates impex pvt ltd*, *International journal of creative research thoughts (IJCRT)*, Vol 11, pp 296-301, p.298.

⁵ Chafloque Céspedes Raquel et al (2018), *Absenteeism, Presenteeism and Academic Performance in Students from Peruvian Universities*, *Propósitos y Representaciones*, No 1, Vol 6, pp 109-133, p. 113.

⁶ بويباون مسعود (2013), مساهمة في تخفيض التكاليف الخفية-دراسة حالة مؤسسة بسطيف, مذكرة لنيل شهادة ماجستير في عموم التسيير, تخصص محاسبة, جامعة محمد خيضر, بسكرة, الصفحة 40.

- **Compensation costs:** The costs borne by the company for compensation procedures, including the additional hours worked leaving the organizations with potentially unusual options in most cases.

Table 1: The main regulations made by a company in case of absenteeism

Indicator	Regulations	Costs
Absenteeism Indicator	Overtime Compensation	The company compensates by increasing the working hours of the present employees to maintain the normal production quantity. The company bears the costs of overtime hours.
	Reassignment	Non-compensation for indirect workers such as the absence of the head of workers who was not replaced.
	Machine Shutdown	Decrease in productivity and loss of customer loyalty due to delivery delays.
	Increasing Workforce	The company bears the costs of hiring. Decrease in quality and productivity.

Source : بويان مسعود (2013)، مساهمة في تخفيض التكاليف الخفية-دراسة حالة مؤسسة بسطيف، مذكرة لنيل شهادة ماجستير في عموم التسير، تخصص محاسبة، جامعة محمد خيضر، بسكرة، صفحة 40.

- **The costs of absenteeism on the employees:** Institutional absence carries a lot of hidden costs, some of its effects on the employees can be mentioned in the following points:
 - Absenteeism disrupts the work of supervisors, affecting all management functions by requiring daily review of work

programmes to address labour shortages and the allocation of additional duties to some workers. ¹

- Emotional fatigue occurs when one's emotional resources are depleted and they feel overextended.
- Depersonalization refers to unfavourable attitudes towards customers or patients, seeing people as things.
- Individuals may have poor personal accomplishments or deterioration in their sense of competence and success while working with others.²

1.2.2.1.4 Measurement of absenteeism:

It is measured by the absenteeism rate, which Henri Savall calculated by the following

relation:³
$$\text{Absenteeism rate} = \frac{\text{Number of hours or days absent}}{\text{Number of hours or days waiting work (normal)}} \times 100$$

It is worth mentioning that holidays and paid leave are excluded from the number of hours or days of work waiting.

1.2.2.2 Work accidents indicator

This indicator is crucial for organizations to monitor as it helps them evaluate the effectiveness of their safety measures and identify areas where improvements are needed to prevent future accidents and ensure the well-being of employees.

1.2.2.2.1 Definition of work accident

The term 'work accident' is considered to encompass any accident resulting in bodily injury, attributable to a sudden, external cause, and occurring within the scope of the employment relationship.⁴

¹ كواشي مراد (2013), *إشكالية تقييم التكاليف الخفية في المؤسسة الاقتصادية*, مجلة الأبحاث الاقتصادية لجامعة البليدة 2, العدد 8, 8, الصفحات 129-142, الصفحة 134.

² Kocakülâh, Mehmet C et al (2018), *Effects of Absenteeism on Company Productivity, Efficiency, and Profitability*, Business and Economic Research, No 1, Vol 8, pp. 115-135, p.122.

³ Savall Henri, Zardet Véronique (1995), *Réduire les couts cachés* [Maitriser les couts et les performances cachés 3eme édition], Gestion, Economica, Paris, page 148.

⁴ المادة 6 من قانون رقم 13-83 المؤرخ في 21 رمضان عام 1403 الموافق 2 يوليو سنة 1983 المتعلق بحوادث العمل و الأمراض المهنية، الجريدة الرسمية، الصادرة ب 5 يوليو، 1983 السنة العشرون، العدد، 28، صفحة 1810.

‘Accident at work’ is defined in European Statistics on Accidents at Work (ESAW) methodology as “a discrete occurrence in the course of work which leads to physical or mental harm.”¹

1.2.2.2.2 Causes of work accidents

➤ **Environmental and organizational causes:** These factors consist of multiple reasons:

Most of these are due to errors in the design of machinery and equipment and to the work environment and its surroundings, and others are due to the nature of the work itself and the degree of fatigue it causes to the individual who performs it.²

Inappropriate physical conditions are often the cause of work accidents such as high temperature, noise, inappropriate lighting, dust, lack of ventilation... etc³

➤ **Human causes:** Work accidents can have a devastating impact on both employees and companies. Unfortunately, the root causes of these accidents often stem from the human resource itself. These are some of the most significant reasons :⁴

- Failure to follow security instructions and procedures.
- Wrong physical postures while doing work.
- Apathy.
- Not using protective tools and not getting used to them.
- The age of the worker and his weakness and inability to keep pace with the pace of production.
- Lack of training of human resources in the use of the equipment they work on.

¹ European Statistics on Accidents at Work (ESAW), (2013), *Summary methodology EUROSTAT Methodologies & Working papers*, Publications Office of the European Union, Luxembourg, p.5.

² ربيعي محمد (2021), *علاقة حوادث العمل بالرضا الوظيفي لدى عمال القطاع العام في الجزائر*, مجلة القياس و الدراسات النفسية, العدد 3, 53. مجلد1, الصفحات من 49 الى 63, صفحة 53.

³ مجيدر بلال (2022), *واقع حوادث العمل في المؤسسة الجزائرية و دور المختص النفسي في التقليل منها دراسة ميدانية بالشركة الإفريقية للزجاج بولاية جيجل*, مجلة الحكمة للدراسات الفلسفية, العدد 3, مجلد 10, الصفحات من 1032 الى 1053, صفحة 1037.

⁴ بوحنك هدى (2018), *مخاطر حوادث العمل و طرق ادارتها*, مجلة الحقيقة, العدد 2, مجلد 17, الصفحات من 193 الى 211, صفحة 196.

- The exhausting human resource continues to work and lists the cause of accidents.
- Lack of experience.

1.2.2.2.3 Cost of work accidents

When it comes to work accidents, there are several costs that companies must consider. These are the most significant costs:¹

- The cost of social security contributions, which can cost a lot.
- The cost of administrative management of work accidents, which includes everything from accident investigation to internal and external correspondence.
- Providing first aid in the workplace. This may involve maintaining a clinic on-site or training employees to provide basic medical care in case of emergency.
- Lost productivity during the injured worker's recovery time, as well as the cost of paying that worker despite their reduced output. Additionally, there may be costs associated with training a replacement worker to take over the injured employee's duties. All of these factors must be taken into account when evaluating the true cost of work accidents.
- It is difficult to calculate the real cost of the machine damaged by the accident because the value of the machine in the market may be less than its book value.²

1.2.2.2.4 Measurement of work accidents

- **The rate of accident frequency:** It calculates how often work accidents cause work to stop, compared to the total number of hours worked during a period of time, as shown in the following equation:¹

¹ بوريش مهني (2019), سياسات تخفيض التكاليف وأهميتها في تحسين تنافسية المؤسسة الاقتصادية-دراسة مقارنة - أطروحة مقدمة لنيل شهادة دكتوراه فب علوم التسيير تخصص محاسبة, كلية العلوم الاقتصادية والتجارية و علوم التسيير, جامعة باتنة, صفحة 42.

² بوسعدية كاهنة و بوسبيعة كاهنة (2020), اثر حوادث العمل في الأداء الوظيفي-دراسة حالة الممرضين بالمؤسسة العمومية الاستشفائية محمد الصديق بن يحيى جيجل, مذكرة مقدمة لنيل شهادة ماستر في علوم التسيير تخصص إدارة الموارد البشرية, كلية العلوم الاقتصادية والتجارية و علوم التسيير, جامعة محمد الصديق بن يحيى, جيجل, صفحة 19.

Recurring rate of accidents =

$$\frac{\text{The number of accidents with stops during a period of time}}{\text{Total work time during the same period}} \times 10^6$$

It represents the repetition of work accidents per million hours worked.

➤ **Severity rate work accidents:**

This rate measures the seriousness of accidents based on the amount of time lost. It is determined using the following equation:²

Severity rate work accidents =

$$\frac{\text{The number of work days lost due to accidents during a period of time}}{\text{Total actual work time during the same period}} \times 10^6$$

It expresses lost time per million man-hours.

1.2.2.3 Turnover indicator

The turnover indicator is a metric used to measure the rate at which employees leave an organization and are replaced by new hires over a specific period.

1.2.2.3.1 Definition of turnover

Anwar, (2017), defined employee turnover as “a percentage comparison of the number of individuals an organization should replace in a specific time of period to the average amount of total individuals within an organization.”³

Employee turnover is “the rotation of workers around the labour market; between firms, jobs and occupations; and between the states of employment and unemployment” (Abassi et al. 2000).⁴

The term turnover is “often used to describe the departure of an employee from his organization (Price, 2001). It is generally defined as the number of employees who enter and leave an organization during a specific period.”¹

¹Bouriche Mhenni et al (2022), *Controlling hidden costs indicators and their importance in reducing the total costs of the enterprise - Case study “Tchin Milk” company in Bejaia*, Human & Social Sciences Journal, No 2, Vol 8, pp 813-825, Page 816.

²Idem

³ Bayad Jamal Ali et al (2021), *Employee Turnover Intention and Job Satisfaction*, International Journal of Advanced Engineering, Management and Science, No 6, Vol 7, pp 22-30.

⁴ Ongori Henry (2017), *A review of the literature on employee turnover*, African Journal of Business Management, African Journal of Business Management, pp. 49-54, p. 49.

https://academicjournals.org/article/article1380537420_Ongori.pdf/1000 [07/04/2024 at 16:00]

1.2.2.3.2 Causes of employee turnover

➤ Job-related factors:

“Lack of commitment in the organisation; and job dissatisfaction make employees quit (Firth et al. 2004)”.²

According to (Bigliardi, 2005) *“turnover occurs when employees are unhappy with certain aspects of their job, such as their salary, colleagues, opportunities for growth, or working conditions.”*³

➤ Organizational instability:

According to research by (Mamun and Hasan, 2017), *“the lack of stability in an organization is close in connection with a high employee turnover rate.”*⁴

1.2.2.3.3 Costs of employee turnover

Employee turnover reveals significant costs for the company:⁵

- Cost of hiring another employee, requires time, cost, advertising, selection, and hiring.
- The cost of training includes the time of the supervisor and the time of the trainee himself.
- The salary cost of the entry-level employee when it usually exceeds his contribution to the organization during the training period.
- The accident rate for new workers is usually high, which costs the company a significant amount.
- Low productivity in the period between the exit of the old employee and replacing him with others who may not have the same competencies.

¹ Ait Alla Aniss et al (2019), *A Review of the Literature on Employee Turnover*, American International Journal of Social Science, No 3, Vol 8, pp 22-28, p. 22.

²Ongori Henry, op.cit page 50.

³Wijesekara Mohanthy (2023), *The Impact of Job Satisfaction on Employee Turnover Intention: With Special Reference to PVC Water Pipes Manufacturing Industries in Sri Lanka*, A thesis submitted to the Faculty of HR & Organizational Psychology, Catholic University Saint Anthony Murcia (UCAM), page 7.

⁴*Ibid* page 8.

⁵ كواشي مراد (2013), *إشكالية تقييم التكاليف الخفية في المؤسسة الاقتصادية*, مجلة الأبحاث الاقتصادية لجامعة البليدة 2, العدد 8, 8, الصفحات 129-142, صفحة 134.

- Production rates are not fully achieved during the testing and training of the new employee.
- Increased defective production rate for new workers
- Increased cases of departure may lead to resorting to overtime hours.

1.2.2.3.4 Measurement of turnover

These are the measurement rates for the turnover:¹

$$\text{Departure rate} = \frac{\text{Number of individuals leaving employment during a period of time}}{\text{Average number of employees during that same period of time}} \times 100$$

$$\text{Replacement rate} = \frac{\text{Number of individuals hired during a period of time}}{\text{Average number of employees during that same period of time}} \times 100$$

Turnover rate =

$$\frac{\text{Number of individuals leaving employment} + \text{Number of individuals hired during a period}}{\text{Average number of employees during that same period of time}} \times 100$$

1.2.2.4 Lack of quality (non-quality) indicator

The lack of quality or non-quality indicator is a metric used to measure and evaluate the deficiencies in the quality of products, services, or processes within an organization.

1.2.2.4.1 Definition of non-quality

Non-quality is the difference between the desired quality and the quality achieved. This can be translated as non-conformity, referring to the failure to meet specific and defective needs and requirements, evident in errors that signify the failure to meet the expected needs of product usage. Likewise, poor quality appears in the form of defects, indicating deviation as anticipated.²

¹ مولود نورين و اخرون (2018), دوران العمل و تأثيره على المؤسسة, مجلة المالية و الأسواق, العدد 8, المجلد 4, الصفحات من 221 الى 224, الصفحة 238.

² بن حميدة محمد (2011), تكاليف الجودة و اللاجودة في المؤسسات, دراسات العدد الاقتصادي, العدد 1, المجلد 2, الصفحات من 73 الى 93, الصفحة 86.

1.2.2.4.2 Causes of lack of quality

Many reasons lead to non-quality, including:¹

- Failure to involve all members of the institution in quality-related decisions.
- Neglecting some technical elements such as lack of preventive maintenance.
- Inefficiency of the service provided to the customer (delivery delays, poor customer treatment, etc.).
- Lack of full awareness of the market and competitors.

1.2.2.4.3 Costs of non-quality

- **Non-Quality Costs (CNQ):** These are the costs of failure and defect correction associated with the evaluation, correction, or replacement of products and services that do not meet customer requirements and expectations.²

➤ **Prevention costs:**

They “represent the costs incurred with the efforts made to prevent the occurrence of defects (product and process engineering, quality planning, quality manual, quality system procedures...etc)”.³

➤ **Appraisal costs:**

“Appraisal costs are all measuring and testing costs expended in order to prevent failure (Costs of receiving, in-process and final inspection, lab tests, audits, field tests, and outside certifications or endorsements)”.⁴

➤ **Internal failure costs:**

¹ علالي مليكة (2004), أهمية الجودة الشاملة و مواصفات الايزو في تنافسية المؤسسة دراسة حالة: مؤسسة صناعة الكوابل ببسكرة, مذكرة مقدمة لنيل شهادة الماجستير في علوم التسيير, كلية الحقوق و العلوم الاقتصادية, جامعة محمد خيضر بسكرة, الصفحة 13.

²Mahdaoui Hamoudi (2017), *La qualité, Source D'amélioration Des Profits Dans L'entreprise*, مجلة العلوم الاقتصادية و علوم التسيير, N 1, Vol 17, PP 76-101, Page 85.

³Fireescu Victoria (2015), *The Costs of Quality: An Important Decision Tool*, International Journal in Economics and Business Administration, No 4, Vol 3, pp 44-52, Page 47.

⁴Moura Sa Patricia (2015), *Encyclopedia of Quality and the Service Economy*, SAGE Publications, USA, Page 571.

“Internal failure costs are the costs that would disappear if no defects existed prior to shipment to the customer (rework, scrap, re-inspection, re-testing, corrective action, redesign, material review, material downgrades, vendor defects, and other like defects)”¹

➤ **External failure costs:**

“External failure costs are the costs that would disappear if no defects existed in the product after shipment to the customer (processing customer complaints, customer returns, warranty claims, and repair costs, product liability and product recalls)”²

1.2.2.4.4 Measurement of lack of quality

The following equation represents the comparison of defective production with total production:³

$$\text{Defective production rate} = \frac{\text{The number of defective units within a period of time}}{\text{The total number of units produced during the same period}} \times 100$$

1.2.2.5 Direct productivity differences (under-productivity) indicator

A productivity indicator is a metric used to measure the efficiency and effectiveness of an organization's operations.

1.2.2.5.1 Definition of under-productivity

“Productivity is an average measure of the efficiency of production. It can be expressed as the ratio of output to inputs used in the production process, i.e. output per unit of input”⁴

Productivity is “the relationship between the value and quantity of resources used in production”¹

¹Vakilifard Hamidreza et al (2012), *Prevention, Appraisal, Internal failure, external failure cost and Quality Optimization*, International Journal of Mathematics and Computer Sciences (IJMCS), Vol 10, pp 539-551, page 541.

²*Idem.*

³ Bouriche Mhenni et al, *Op.cit.*, Page 817.

⁴ Pooja Yadav et al (2015), *The Concept of Productivity*, International Journal of Engineering and Technical Research (IJETR), No 5, Vol 3, pp 192-196, Page 192.

1.2.2.5.2 Causes of direct productivity differences

The productivity of work in an organization is influenced by several factors and variables, including:²

- The skills available within the institution, as well as its material, technical, and operational capabilities, and its distinctiveness in these areas compared to other institutions.
- The health status of the workers, their living conditions, cultural level, and educational level.
- The characteristics of the individuals working in the organization in terms of performance, experience, training, attitudes, and levels of ambition.
- The physical environment in which the workers live, such as industrial safety, internal factory planning, ventilation, and noise levels.

1.2.2.5.3 Costs of direct productivity differences

The hidden costs associated with direct productivity differences are expenses resulting from dysfunctions that the company in the form of: over salary, over consumption, or non-production. However, the major portion of hidden costs from direct productivity differences result from over consumption and non-production.

This is why Savall insists on labour productivity as an indicator, since it is the human component that matters most and is more influential change than any other resource. Employees are easily influenced by their environment whether they are material or human, leading to low moral if they do not like what they do. As a result, such dissatisfaction causes a fall in productivity levels. However, when they are contented with work and having relevant competencies, employees would strive more for better productivity levels. Hence companies continuously seek to minimize any loss in production capacity that may arise due to inadequate performance as well as prevent it completely.

¹ Zeddoun Djamel et al (2023), *Factors affecting labor productivity in the industrial sector in Algeria Standard study during the period (1980-2020)*, Revue Organisation & Travail, No 4, Vol 11, pp 70-84, Page 73.

² بوريش مهني (2019), *سياسات تخفيض التكاليف و أهميتها في تحسين تنافسية المؤسسة الاقتصادية-دراسة مقارنة*، أطروحة مقدمة لنيل شهادة دكتوراه في علوم التسيير تخصص محاسبة، كلية العلوم الاقتصادية و التجارية و علوم التسيير، جامعة باتنة، صفحة 129.

Savall also sees that hidden costs resulting from direct productivity differences are more likely to show in companies that do not adhere to quality standards compared to those that implement quality systems. These hidden costs show in various ways, such as their impact on wages, time wastage, inefficient material consumption, and decreased production quantity.¹

1.2.2.5.4 Measurement of direct productivity differences

Table 2: Measures of productivity

Single-Factor Productivity	$\frac{Output}{Labor}$	$\frac{Output}{Materials}$	$\frac{Output}{Capital}$
Multifactor Productivity	$\frac{Output}{Labor + Materials + Overhead}$		$\frac{Output}{Labor + Energy + Capital}$
Total Factor Productivity	$\frac{Goods\ and\ services\ produced}{All\ inputs\ used\ to\ produce\ them} = \frac{Output}{Inputs}$		

Source:Roberta S. Russel et al (2011), *Introduction to Operations and Supply Chain Management* [Operation Management: Creating Value Along the Supply Chain, 7th edition], John Wiley and Sons INC, USA, p. 14

1.2.3 The contribution of unveiling hidden costs on cost reduction

These are the ways in which revealing hidden costs contributes to cost reduction:

1.2.3.1 Evaluation of hidden costs

The Hidden Costs evaluation method was introduced in 1979 by the ISIOR Institute, which proposed the social-organizational-financial method (SOF). This method is based on three modules: the social module, the organizational module and the financial module²

¹*Idem.*

² H.Savall, V.Zardet , op.cit., p.132.

1.2.3.1.1 Objectives of the SOF method

This method is based on three modules: the social module, the organizational module and the financial module. The objectives of these modules can be analysed in the following table.

Table 3: Objectives of SOF modules

Module	Objectives
Social	<ul style="list-style-type: none">- Detect the elementary dysfunctions (inventory of dysfunctions).- Explain the multiple causes of dysfunctions connections.- [Structures ↔ Behaviour] → Dysfunctions
Organizational	<ul style="list-style-type: none">- Explain the multiples causes of dysfunctions regulation: study of effects.- Compile an inventory of the economic incidence of regulations: quantity of time, consumption, production "losses".
Financial	<ul style="list-style-type: none">- Study the price and unit cost of regulation components.- Evaluate in monetary units the economic incidence of regulations.

Source : H. SAVALL et ZARDET.op.cit p 132

1.2.3.1.2 Application of the SOF method

This method is based on three modules: the social module, the organizational module and the financial module¹:

- **Social module (S):** It relies on conducting interviews with employees, supervisors, managers... etc and analyzing documents containing statistics on absenteeism, workplace accidents, turnover rates...etc., in addition to relying on direct observation of some phenomena occurring within the workshop, in order to complement and confirm the information previously obtained.

¹حجوب فاطمة(2021), أهمية التحليل السوسيوي- الاقتصادي كخطوة لتحسين الجودة الشاملة في مؤسسات التعليم العالي بالجزائر, اطروحة الدكتوراة, جامعة الشهيد الشيخ العربي التبسي – تبسة, صفحة 137.

- **Organizational module (O):** This stage is considered mandatory because it constitutes the main source of information that will be relied upon in the financial module, and this module is essentially based on conducting a comprehensive and sequential inventory of operating losses and their various effects over time. Additionally, the module allows for the organization of similar and complex processing methods, as well as judging their compatibility with the economic objective of the institution.
- **Financial module (F):** During this stage, reference is made to cost elements and prices measured within the accounting documents of the institution, in order to conduct a financial assessment of the cost of time and materials consumed during the process of addressing operating losses. As for the elements that could not be financially evaluated, they can remain as supplementary qualitative and/or quantitative data for the financial information.

1.2.3.1.3 Techniques information collection

In order to obtain the various information required for each module, some techniques and methods of collecting information must be used, since there are several ways to capture quantitative, qualitative and the financial data for each of the three modules in SOF method, and the following table shows the most important of these techniques.

Table 4: Methods of collecting data

Module	Data collection techniques		Data forms		
	Most important	Less important	Qualitative	Quantitative	Financial
Social	Interview Documents	Observation	Yes	Yes	No
Organizational	Observation Interview	Documents	Yes	Yes	No

Financial	Documents	Interview	Yes	Yes	Yes
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Source: Henri SAVALL et Véronique ZARDET, Op.cit, P 136.

1.2.3.2 Reduction of hidden costs

This is the method for reducing hidden costs:

1.2.3.2.1 Improving jointly the economic and social performance of the company

Since 1974, hidden cost evaluations have been conducted, and the results unequivocally demonstrate how the company's economic performance is impacted by both the amount of hidden expenses and the working conditions of its employees. Henri Savall's 1973 method, which was published in *Enriching Human Work*, is inclusive and comprehensive as a result. It aims to combine the company's social and economic elements and no longer views them as essentially incompatible goals. To highlight the concurrent research to enhance the enterprise's social and economic performance, the suggested transformation activities have been dubbed socio-economic innovation actions.¹

- **Social performance:**

Six components, or domains, comprise the notion of social performance:

Working conditions: including surroundings and interpersonal interactions.

- **Workplace organization:** allocation of the company's primary responsibilities, task delegation within units, and interdependence between positions and activities.
- **Coordination and communication:** functional and operational articulation amongst people to carry out their duties, information sharing.
- **Time management techniques:** allocating individual time between key tasks and planning both group and individual working schedules.

¹H.Savall, V.Zardet , op.cit., p.194.

- **Integrated training:** methods for vocational training, suitability of training for jobs.
- **Strategic implementation:** the processes, procedures, and strategies used to change, decline, and translate the company's strategic goals into practical steps that are meant to accomplish them.

Therefore, the company's performance in each of these six areas (which include both actions and malfunctions) is characterized by the outcomes attained. One feature of strategic implementation is that it serves as a template for the breakdowns in the other five categories. Additionally, there are interactions between all six domains

- **Economic performance:**

The creation of potential: actions whose full effects will be measured in later periods and the immediate results of the period (productivity, profit maximization, etc.) determine the economic performance. When an organization takes steps to improve working conditions or expand training integration, it grows into its full potential.

This demonstrates the interdependencies between economic and social performance as defined by us; for this reason, performance or socio-economic efficiencies are used, since they refer to two aspects of the same phenomenon.

1.2.3.2.2 Improve the company structures and behaviours

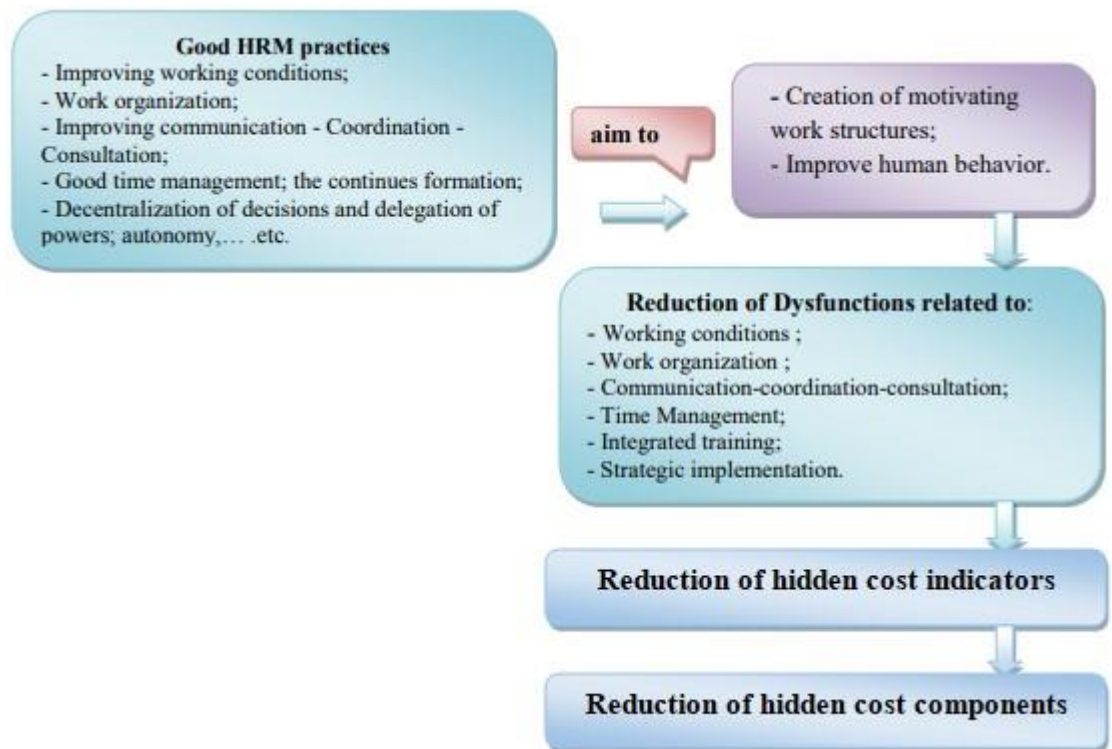
Henri Savall, along with the ISIOR research team, adopted the structural-behavioural approach. This approach posits that organizations are the product of the dynamic interplay between human behaviours and structures, which ultimately determine the success or failure of the organization. In this context, economic activity is seen as the outcome of two possibilities: either organization achieves its goals by completing the required and targeted operations in a timely and efficient manner, or there are discrepancies between the planned operations and the actual outcomes, which result in operational discrepancies and hidden costs for the activity. Overall, improving the company's structure provides a comprehensive framework for understanding organizations and their socio-economic activities, organizations can also gain a deeper understanding of their

structure and behaviour, and develop effective strategies to achieve their goals and cut costs.¹

1.2.3.2.3 Developing the human resource and improve its behaviour

Effective human resource management leads to creating an appropriate work environment for employees, thereby avoiding undesirable behaviors such as absenteeism and turnover, consequently avoiding hidden costs or opportunity costs associated with them. The following plan illustrates the impact of positive behaviours in reducing hidden costs²:

Figure 7: The contribution of good HRM practices in reducing hidden performance costs



Source: MAHLOUL Zakaria, DOUADI Mehidi(2021), Good practices of HRM, what contribution to reduce hidden costs!, Revue Organisation & Travail, Volume 10, N°2, pp 320-337, p.327

¹كواشي مراد(2013)، إشكالية تقييم التكاليف الخفية في المؤسسة الاقتصادية، جامعة البليدة 2، العدد 8، ص 14.

²MAHLOUL Zakaria, DOUADI Mehidi (2021), *Good practices of HRM, what contribution to reduce hidden costs!*, Revue Organisation & Travail, Volume 10, N°2, pp 320-337, p326-327

1.2.3.2.4 Controlling Hidden Cost Indicators

A comprehensive strategy focusing on controlling hidden cost indicators is required in the following measures:¹

- **Decrease absenteeism:** various approaches can be taken: Providing training for supervisors, as employee satisfaction with their supervisors contributes to maintaining consistency and reducing absenteeism. Implementing disciplinary measures, such as warnings or material consequences (such as salary deductions).
- **Minimizing employee turnover:** it is crucial, as it has negative implications for the company and affects both types of work costs. To address this, proactive and targeted strategies to reduce turnover should be implemented.
- **Reducing work accidents:** it can be achieved through two primary objectives: Preventing work accidents by creating a safe work environment and taking necessary precautions to minimize risks, and ensuring proper medical treatment and care for injured employees.
- **Improving quality:** in order to an improved reputation among clients, allowing the company to gain a larger market share and increase revenue. It also reduces the cost of delivering services.
- **Boosting labour productivity:** it is essential for meeting customer demand and achieving success. Product development plays a crucial role in achieving this. The chance to decrease expenses and enhance excellence, thereby serving customers in a way that promotes a competitive marketplace.

1.2.3.3 The benefits of unveiling hidden costs

These are the advantages of revealing hidden costs:

¹د. خالد محمد المدهون (2021), واقع التكاليف الخفية وإمكانية التحكم بها: دراسة تطبيقية على البنوك التجارية العاملة في فلسطين مجلة دراسات الأعمال والإدارة، العدد: 1، المجلد: 3، صفحة من 11 إلى 24، ص 16.

1.2.3.3.1 Identification of cost reduction opportunities:

Organizations can target cost reduction activities by identifying inefficiencies, redundancies, and wasted spending by uncovering hidden costs. Organizations may prioritize cost-saving possibilities and conduct focused interventions to maximize resource usage and streamline operations by shedding light on hidden expenses across multiple functions.¹

1.2.3.3.2 Optimized efficiency

The purpose of unveiling hidden costs and calculating them is to provide an explanation for the efficiency levels, or more precisely, the variations in efficiency, of various organizations. Once hidden costs are identified, a process of finding ways to increase efficiency may begin.²

1.2.3.3.3 Improved cost management

The short-term goal is to boost the business's profitability, or for public service firms, may obtain a complete understanding of their cost structure by revealing hidden costs to better balance and respect their budgets. The company's long-term economic problem is to either survive or grow by becoming more competitive.³

1.2.3.3.4 Better investment decision-making:

In this area, the disclosure of hidden costs saves three benefits:⁴

- Continuous review of the operational methods, current management, and seeking for it to be more efficient, in the light of the technological or physical change that the company has done, which reduces the hidden costs.

¹ Joseph Berk, Op.cit, p. 8

² Henri Savall et Zardet Véronique , Op.cit, p. 123.

³*Idem.*

⁴ دواي مهدي (2010), تأثير التكاليف المستترة على نظام المعلومات المحاسبي, اطروحة دكتوراة, جامعة فرحات عباس سطيف, ص144.

- Predicting the processes accompanying the investment in advance, meaning anticipating the dysfunctions and new hidden costs associated with the investment.
- Ensure that supervisors at different levels are involved in the preparation of investment programs.

1.2.3.3.5 Optimized the budget:

Unveiling and evaluating hidden costs affect certain elements of the budget, especially inventories and production of the institution for self-use, where the cost of inventories is assessed at a value exceeding their economic value, which the institution was supposed to bear if these inventories were realized with fewer distortions. This results in inflating the net income or distributable income of the institution.¹

Hidden costs lurk beneath the surface of organizational operations, often eluding detection until they manifest as inefficiencies or financial burdens. These clandestine expenditures stem from various dysfunctions within the system, which may go unnoticed without careful scrutiny. Identifying these hidden costs is imperative for businesses striving for efficiency and profitability. In this section, we delve into the concept of hidden costs, exploring their origins, indicators, and the ramifications they pose for organizational performance.

¹ *Ibid*, p. 141.

Conclusion:

In this chapter, we have explored the fundamental concepts and strategies surrounding costs and cost reduction. We began by delving into the intricate world of cost accounting, familiarizing ourselves with the various definitions and classifications of costs. This solid foundation paved the way for a deeper understanding of cost reduction, a crucial aspect of effective cost management.

We then defined and examined the four most widely used cost-reduction tools, providing practical insights into their application. This was followed by an in-depth exploration of the Hidden Cost Approach, where we uncovered the hidden costs and dysfunctions that often lurk within organizations. By identifying the indicators of these hidden costs, we emphasized the importance of bringing them to light and addressing them.

Furthermore, we evaluated the profound implications of hidden costs on organizational performance, using the SOF method to systematically reduce these elusive expenses. This comprehensive examination equips organizations with the knowledge and tools necessary to identify, manage, and effectively reduce costs. By doing so, they can enhance their operational efficiency, boost profitability, and ultimately foster long-term competitiveness and growth.

Throughout this chapter, we have presented a cohesive and engaging narrative, guiding you through the complexities of cost management and cost reduction strategies. By understanding these theoretical concepts, organizations can unlock the full potential of their resources and thrive in an increasingly competitive landscape.

Chapter 02: Practical application at El Kendi Part of MS Pharma

Introduction

With the increasing complexity of economic institutions, it is essential to ensure that all costs, including hidden costs, are uncovered. The current study aims to explore the impact of unveiling hidden costs on cost reduction within an economic institution.

To achieve this objective, we have employed the descriptive-analytical method. This approach incorporates an applied approach that utilizes a range of statistical techniques and treatments relevant to the subject matter of the study. By doing so, we can draw meaningful conclusions about the impact of hidden costs on the overall financial health of an institution.

The study focuses on a field application at El Kendi Company, one of the leading economic institutions in drug production in Algeria. we aim to address the research problem and test the validity of the hypotheses through refutation or confirmation based on the evaluations and analyses conducted. To effectively execute this field study, this chapter is divided into two main sections.

The first section provides an overview of the pharmaceutical sector in Algeria first, then a presentation of El Kendi, and finally the research methodology.

The second section of this chapter delves into the results of the study. Analyse the data collected to determine the impact of unveiling hidden costs on cost reduction within EL KENDI. The findings of the study are discussed in detail, and we will draw conclusions based on the results.

2.1 Overview of the pharmaceutical sector in Algeria

Ensuring public health and well-being is paramount, and the Algerian pharmaceutical sector plays a critical role in achieving this objective. However, optimizing costs and ensuring access to essential medicines remain ongoing challenges. This section delves into the current landscape of the Algerian pharmaceutical sector, with a particular focus on our internship place where we conducted our study El-Kendi, presents a valuable case study for investigating the impact of unveiling hidden costs on cost reduction.

2.1.1 Presentation of the Pharmaceutical Sector in Algeria

Algeria is quickly becoming the hub of pharmaceutical production in Africa and the largest pharmaceutical market in North Africa. Among domestically made goods, generic medications make up 75%. The importance of medications for non-communicable diseases is growing.¹

2.1.1.1 Definition of the pharmaceutical industry

the pharmaceutical industry includes all organisations concerned with the production and marketing of medicines, and can be defined as "*the manufacture of medical drugs in the form of chemicals, medicinal herbs or raw plants, which the pharmacist synthesises and subjects to a series of research, analyses, and tests until the consumer can use the drug in its final form*".²

The pharmaceutical industry focuses on remedies used for curing, treating, preventing, and diagnosing diseases. These remedies, known as medications or drugs, can be obtained from various sources and administered in different forms such as pills, injections, or sprays. Both prescription and over-the-counter drugs are included in this industry.³

¹ Zhengchun He, *Algeria Pharma Market*, <https://www.linkedin.com/pulse/algeria-pharma-market-zhengchun-harry-he/> [05/05/2024 at 12:00].

² فاطمة محبوب (2016), *تأثير التحالفات الاستراتيجية على الأداء التنافسي للمؤسسة الصناعية دراسة حالة مجمع صيدال*, أطروحة مقدمة ضمن متطلبات نيل شهادة دكتوراه في العلوم الاقتصادية, جامعة محمد خيضر كلية العلوم الاقتصادية و التجارية و علوم التسيير, بسكرة, صفحة 135.

³ Statista, *Pharmaceuticals – Algeria*, <https://www.statista.com/outlook/hmo/pharmaceuticals/algeria> [11/05/2024 at 01:00]

2.1.1.2 Characteristics of the pharmaceutical industry in Algeria

Algeria's pharmaceutical industry is a dynamic sector characterized by some key characteristics:

2.1.1.2.1 Implementation of TRIPS Agreements

The TRIPS (Trade Related Aspects of Intellectual Property Rights) Agreement safeguards the pharmaceutical industry as it plays a crucial role in promoting public health and relies heavily on research. This is done by enforcing the patent system to discover new drugs, prohibiting other pharmaceutical companies from replicating the drug until after the protection period. Nonetheless, the holder of the patent may transfer it to others and establish licensing agreements.¹

2.1.1.2.2 The field demands substantial financial investment, expertise, and advanced technology

The world's largest laboratories are characterised by their large capital, as well as their monopolisation of technology by investing in innovations and inventions that grant them patent rights.²

2.1.1.2.3 Heavy reliance on specialization, high skills and accumulated expertise

Organisations operating in this field are divided between specialising in manufacturing difficult-to-compete medicines, focusing their activities and products on a specific market segment, or specialising only in high-cost medicines.³

2.1.1.2.4 Products in the local market

Pharmaceuticals products in the local market are generic, a generic drug is an exact copy of the original drug with the same effectiveness and quality, and it is guaranteed like all other drugs as it is subject to the same control process and the same follow-up. This type of medication allows the treatment of many short or long-term diseases

¹ بعوني ليلي (2021), الصناعة الصيدلانية في الجزائر, مجلة القسطاس للعلوم الإدارية والاقتصادية و المالية, العدد 1, المجلد 3, الصفحات من 70 الى 90, الصفحة 77.

² فاطمة محبوب Op.Cit. p. 136.

³ *Idem.*

such as diabetes, blood lipids, cholesterol, sepsis, high blood pressure, ulcers, head pain, or fever....¹

2.1.1.3 Competitors of the Pharmaceutical Industry in Algeria

The table below highlights the key players in the Algerian Pharmaceutical Industry and their competitors:

Table 5: Market share for the biggest pharmaceutical companies in Algeria during 2022

Unit : Million USD Dollar

Rank	Company/Lab	Market share MAT Q1 ² 2022	
		Sales	Percentage
1	SANOFI	295.6	12%
2	NOVO NORDISK	197	8%
3	EL KENDI	166.1	7%
4	HIKMA PHARMA	140.8	6%
5	BIOPHARM	83.4	4%
6	PHARMALLIANCE	80.8	3%
7	GSK	78.7	3%
8	MERINAL	72.3	3%
9	BEKER	71.6	3%
10	VITAL CARE	63.8	3%

¹ حديدي فتيحة و بربار نور الدين (2023), مساهمة الدولة في دعم و تطوير المنتجات المحلية دراسة حالة قطاع الصناعات الصيدلانية, مجلة أبحاث اقتصادية معاصرة, العدد 1, المجلد 6, الصفحات من 43 الى 64, الصفحة 51.

² The MAT is used to adjust for seasonal variation in the quarterly figures and facilitates comparison between recent quarterly figures and annual results. The MAT for the first quarter of 2022 is the sum of the second, third, and fourth quarters of 2021 plus the first quarter of 2022. <https://www.cbs.nl/en-gb/news/2013/26/government-surplus-in-first-quarter-of-2013/moving-annual-total#:~:text=Quarterly%20data%20can%20be%20converted,quarterly%20figures%20and%20annual%20results>. [11/05/2024 at 22:00]

11	FRATER RAZES	57.6	2%
12	BIOGALENIC	52.6	2%
13	SAIDAL	52.1	2%
14	MERCK KAGAA	48.4	2%
15	NOVARTIS	46.2	2%
16	BIOCARE	46	2%
Others		825.1	35%
Total Market		2378	100%

Source : IQVIA, Dynamique du marché du médicament en Algérie, <http://www.miph.gov.dz/fr/wp-content/uploads/2022/06/Dynamique-du-Marche-du-Medicament-en-Algerie-juin-2022-Version-Finale-1.pdf> [11/05/2024 at 10:00]

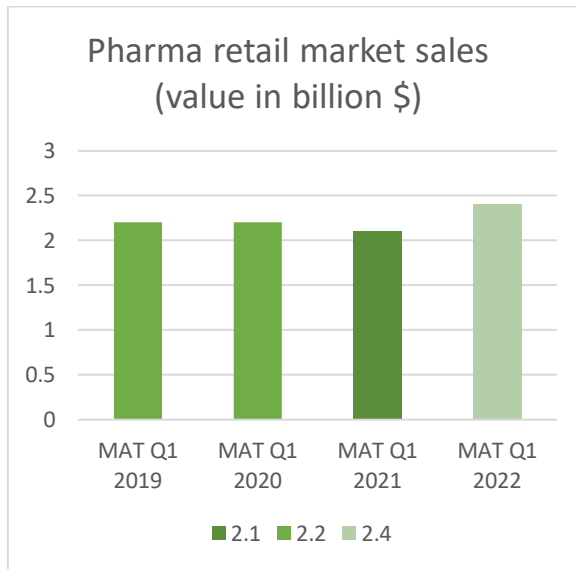
It is noticeable from the previous table that the pharmaceutical industry in Algeria is witnessing very intense competition. The pressure of competition that local institutions are exposed to by international laboratories, in particular, SANOFI is the largest shareholder in this industry in 2022, followed by Novo Nordisk with 8%, while El Kendi maintained its competitive position as the third largest shareholder and a leader in the local pharmaceutical industry to be considered as the most important local laboratory for the pharmaceutical industry in Algeria.

2.1.1.4 The growth of the pharmaceutical market in Algeria

The pharmaceutical market in Algeria has grown due to consumer preference for affordable, locally manufactured drugs. The government's efforts to increase domestic production and reduce reliance on imports have supported this shift. There is also a demand for generic drugs. Local companies are investing in research and development to meet the growing demand for high-quality medicines. Digital technologies like telemedicine and e-prescriptions are improving healthcare access. However, the healthcare infrastructure, especially in rural areas, remains underdeveloped. Increased government

spending on healthcare has contributed to industry growth and encouraged local companies to expand, reducing dependence on imports.¹

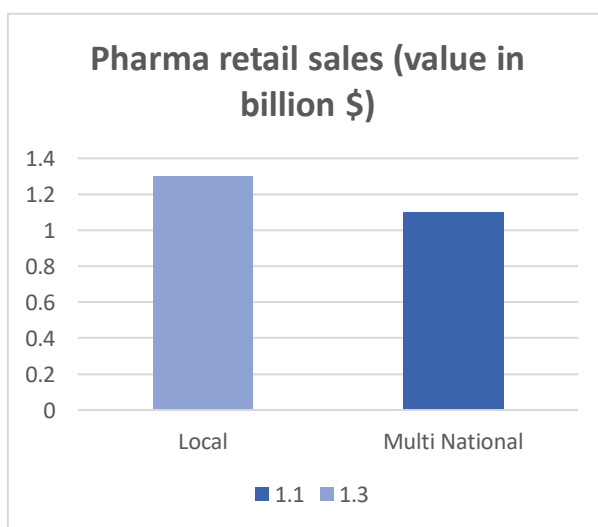
Figure 8: The growth of the pharmaceutical market in Algeria between MAT Q1 2019 and MAT Q1 2022.



The graph illustrates pharmaceutical retail market sales over four quarters, from MAT Q1 2019 to MAT Q1 2022. Sales remained stable at around 2.2 billion dollars in MAT Q1 2019 and MAT Q1 2020, with a slight dip to 2.1 billion dollars in MAT Q1 2021. However, a significant surge to 2.4 billion dollars was observed in MAT Q1 2022, indicating a resilient industry that adapts to challenges and demonstrates robust growth potential.

Source: IQVIA, Dynamique du marché du médicament en Algérie, <http://www.miph.gov.dz/fr/wp-content/uploads/2022/06/Dynamique-du-Marche-du-Medicament-en-Algerie-juin-2022-Version-Finale-1.pdf> [11/05/2024 at 10:00]

Figure 9: Market Share Distribution in the Pharmaceutical Retail Sector: Local vs. Multinational Companies



The graph shows that the pharmaceutical retail market is divided with local companies accounting for 54% of the market, equating to 1.3 billion dollars. Multinational companies make up the remaining 46%, with sales of 1.1 billion dollars. This indicates a strong presence of local pharmaceutical firms in the market, slightly outperforming their multinational counterparts.

¹ Statista, <https://www.statista.com/outlook/hmo/pharmaceuticals/algeria> [11/05/2024 at 01:00]

Source: IQVIA, Dynamique du marché du médicament en Algérie, <http://www.miph.gov.dz/fr/wp-content/uploads/2022/06/Dynamique-du-Marche-du-Medicament-en-Algerie-juin-2022-Version-Finale-1.pdf> [11/05/2024 at 10:00]

2.1.1.5 The pricing system for medicines in Algeria

The medicines pricing system in Algeria is regulated based on cost and market situation. The Ministry of Industry and Pharmaceutical Production, along with other departments, sets the national system for medication prices. The system has four goals: controlling medication expenses, making medication accessible to patients, promoting local production and exportation, and regulating the medication market financially.¹

2.1.1.5.1 Locally manufactured drugs

The PCSU for locally made drugs is determined by considering the integration rate. Integration means using locally made inputs, components, and parts, as well as technical and engineering services, to increase the value added locally. This leads to higher-quality pharmaceutical products that can be exported. The integration rate is calculated according to the following formula, taking into account the unit production cost:²

$$\text{Integration rate} = \frac{\text{UPC Ex.Tax}(\text{CIPCM Ex.Tax} + \text{CISC Ex.Tax}) \times 100 + \text{importation rate}}{\text{UPC Ex.Tax}}$$

$$\text{Importation rate} = \frac{\text{Number of units intended for export per year} \times 100}{\text{Total number of units to be manufactured per year}}$$

PCSU: Prix cession sortie usine

UPC Ex.tax: Unit production cost excluding taxes

CIPCM: Unit cost of imported products and consumed materials

CISC: Unit cost of imported services consumed

2.1.1.5.2 Imported drugs

According to the official journal the price of imported drugs based on FOB

¹ Marie Raffait, *Exportation de médicaments en Algérie : enjeux réglementaires et stratégiques d'un laboratoire exploitant basé en France*, <https://dumas.ccsd.cnrs.fr/dumas-04474287>, [13/05/2024 at 13:26]

² Arrêté du 11 jourmada El Oula 1442 correspondant au 26 décembre 2020 fixant la procédure de fixation des prix des médicaments par la comité économique intersectoriel des médicaments, article 3

The FOB price of a drug outside the reference nomenclature is set at the lowest price:

- Of the manufacturer price excluding tax prices practiced in comparator countries at regional and international levels.
- Of the drug price in the country of origin, if different from comparator countries.

If the drug is not marketed in any of the comparator countries, the FOB price of the drug is set at the lowest FOB price practiced in the countries where its marketing is effective.

The FOB price of a generic drug is set at the lowest FOB price practiced at regional and international levels. It must be at least thirty percent (30%) cheaper than that of the reference specialty.¹

2.1.1.5.3 Reimbursement policies

The citizens of Algeria are fortunate to have access to free formulary treatments provided by the public sector. Outpatient care is covered by social security, benefiting approximately 85% of the population. The availability of treatments is majorly influenced by reimbursement and enlistment. CNAS, CASNOS, CNR, and CNAC are the four bodies that provide coverage for working employees, self-employed individuals, retired citizens, and unemployed persons, respectively. The El Chifa card, which is part of CNAS, covers around 80% of the cost of medicines.²

2.1.2 Presentation of host organization

El Kendi, a subsidiary of MS Pharma, stands as a leading entity in the pharmaceutical industry. Their main goal is to improve healthcare. They achieve this by the development, production, and distribution of high-quality medications.

2.1.2.1 Presentation of Ms Pharma:

MS Pharma is a multinational pharmaceutical company specializing in the development, production, and distribution of generic and specialty medicines:³

¹Arrêté du 11 jourmada El Oula 1442 correspondant au 26 décembre 2020 fixant la procédure de fixation des prix des médicaments par la comité économique intersectoriel des médicaments, articles 15 and 16.

² Hajer Dahman et al, *Pharmaceutical pricing and reimbursement policies in Algeria, Morocco, and Tunisia: comparative analysis*, JOURNAL OF MARKET ACCESS & HEALTH POLICY 2023, 1, 11, pp1-17, p7.

³ Ms Pharma, *Global presence*, <https://www.mspharma.com/global-presence> [01/05/2024 at 10:00]

Founded in 1989, MS Pharma is a leading regional pharmaceutical company in the MEA region (the Middle East and Africa), well-positioned for fast business growth, and has more than 2000 employees located across the MEA region.

A broad technology base covering OSD (Oral Solid Dosage), liquids, creams, ointments, and sterile (injectable) across all key therapeutic areas.

- 300 INNs (International Non-proprietary Names)¹
- 2000+ registered MAs
- A further 90+ products (INNs) under development and registration

MS Pharma is represented in eleven countries (Algeria, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, Iraq, Bahrain, United Arab Emirates, and Switzerland) by a headquarters in Amman, Jordan; and an executive office in Zug, Switzerland.

Figure 10: Global presence of Ms Pharma



Source: Ms Pharma, *Global presence*, <https://www.mspharma.com/global-presence> [01/05/2024 at 13:15].

¹ INN facilitates the identification of pharmaceutical substances or active pharmaceutical ingredients. Each INN is a unique name that is globally recognized and is public property. A non-proprietary name is also known as a generic name. (According to the health organization [https://www.who.int/teams/health-product-and-policy-standards/inn/guidance-on-inn#:~:text=International%20Nonproprietary%20Names%20\(INN\)%20identify,known%20as%20a%20generic%20name](https://www.who.int/teams/health-product-and-policy-standards/inn/guidance-on-inn#:~:text=International%20Nonproprietary%20Names%20(INN)%20identify,known%20as%20a%20generic%20name) [11/05/2024 at 11:30])

Ms Pharma has three R&D centres and five manufacturing plants in the MENA (Middle East and North Africa) region - one R&D centre in Algeria and two in Jordan; and one factory in each of the following countries: Algeria, Turkish Republic, Saudi Arabian Republic; and 2 in Jordan. and by sales and marketing offices.

Figure 11: Production plants of Ms pharma



Source: Ms Pharma, *El Kendi product Algerian quality generic*, <http://www.miph.gov.dz/fr/wp-content/uploads/2022/05/Le-produit-El-Kendi-Un-generique-Algerien-de-qualite.pdf> [12/05/2024 at 13:00]

2.1.2.1.1 Ms pharma values

“The work culture at MS Pharma is based on equal employment opportunities and diversity to foster an inclusive environment.”¹

➤ **Respect for People**

- Treat people with the highest regard.
- Encourage people to take responsibility.
- Treat people with fairness and kindness.

➤ **Integrity & Transparency**

- Transparency and honesty are essential.
- Trust is promoted.

¹ MS Pharma, *Our culture*, <https://mspharma.com/our-culture> [21/05/2024 at 16:00]

- Open communication is a priority.
- **Quality & Excellence**
 - Excellence.
 - Adhere to strict quality standards.
 - Innovation is embraced.
- **Teamwork**
 - Collaboration is key.
 - Build strong connections.
 - Ideas from all are respected.

2.1.2.1.2 Ms Pharma mission

“Improve our communities’ quality of life by increasing the access to high quality and affordable products.”¹

2.1.2.1.3 Ms Pharma vision

“To be an international pharmaceutical company with stronghold in MEA and presence in Europe and other global markets.”²

2.1.2.2 Presentation of El Kendi

MS Pharma’s subsidiary El Kendi is the leading generic pharmaceutical manufacturing company in Algeria.

El Kendi has come a long way since its inception in 2007. Two years later, the site was launched, and by 2010, they had introduced their first range of products dedicated to chronic diseases. This milestone marked a significant turning point for the company in 2015, as it became the first local manufacturer in Algeria. Today, with an impressive array of SKUs commercialized, El Kendi has firmly established itself as a trusted name in the healthcare industry. Their commitment to quality and innovation has earned them a loyal customer base, and they continue to strive towards excellence in all that they do.

¹ Ms Pharma, *Missions and vision*, <https://www.mspharma.com/en/mission-and-vision> [21/05/2024 at 16:00]

² Ms Pharma, *Missions and vision*, <https://www.mspharma.com/en/mission-and-vision> [21/05/2024 at 16:00]

Figure 12: History of El Kendi



Source: Ms Pharma, *El Kendi product Algerian quality generic*, <http://www.miph.gov.dz/fr/wp-content/uploads/2022/05/Le-produit-El-Kendi-Un-generique-Algerien-de-qualite.pdf> [12/05/2024 at 13:00]

Figure 13: Site of El Kendi



Source: Ms Pharma, *Global presence*, <https://www.mspharma.com/global-presence> [01/05/2024 at 13:15].

El Kendi is the leading generic pharmaceutical company in Algeria, with more than 75 INNs (International Non-proprietary Names) on the market.

With more than 1000 highly skilled and experienced employees, El Kendi has expanded its production capacity to meet the fast-growing market demand.

The local sales and marketing team covers all health sectors and disease areas from chronic medications to outsourced medicines.

The local manufacturing site supplies the Algerian market with more than 175 different products covering the fundamental therapeutic classes.

The Algerian site can manufacture different pharmaceutical dosage forms, such as solids, semi-solids, and liquids. Additionally, the company is investing in augmenting its portfolio with injectables and biosimilar medications.

2.1.2.2.1 Services offered by El Kendi

The services offered by El Kendi are the manufacture and packaging of medicines.

The conditioning process of a drug involves several critical stages to ensure the product's safety and efficacy. The pharmaceuticals produced by El Kendi come in three forms:

- Solid (tablets and capsules)
- Semi-solid (ointments, creams, and gels)
- Liquid (syrups).

Figure 14: Production lines of El Kendi



Source: Ms Pharma, *El Kendi product Algerian quality generic*, <http://www.miph.gov.dz/fr/wp-content/uploads/2022/05/Le-produit-El-Kendi-Un-generique-Algerien-de-qualite.pdf> [12/05/2024 at 13:00]

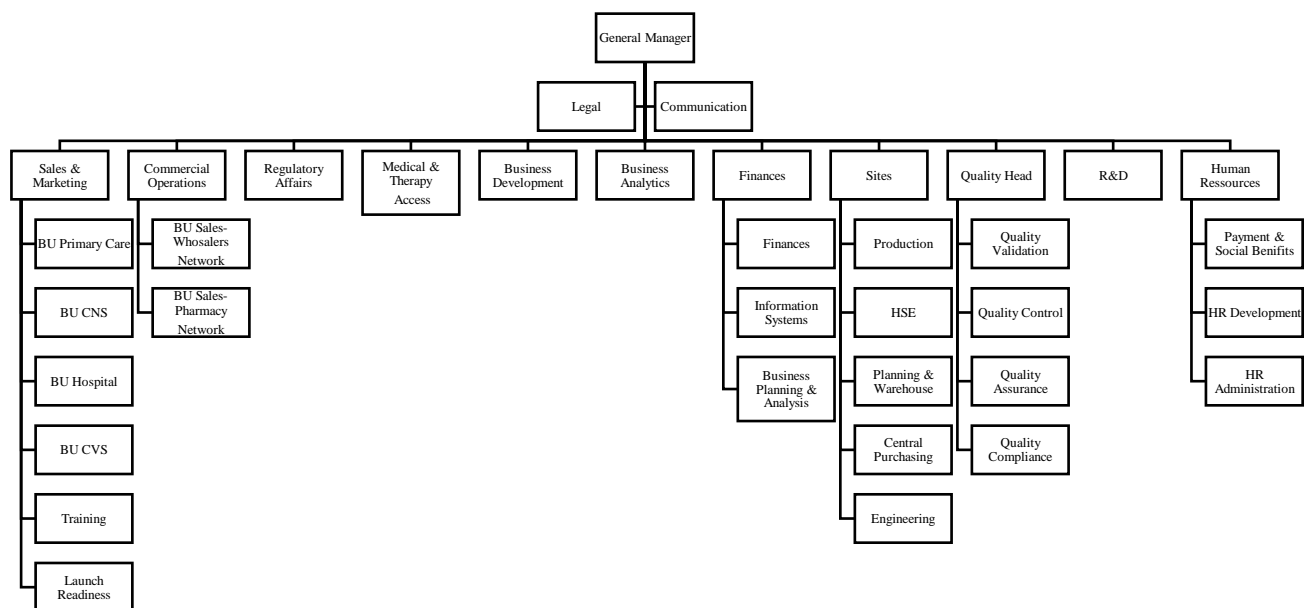
Once the manufacturing stage is complete, the medicines move to the packaging stage. This stage includes creating material elements designed to protect the product throughout its journey. The conditioning process consists of three stages:

- **Primary conditioning:** This involves the container that comes into direct contact with the drug, such as a blister pack, bottle, or ampoule.
- **Secondary conditioning:** This includes the external packaging that surrounds the primary packaging, such as boxes or cartons, providing additional protection.
- **Tertiary packaging:** This is the packaging that holds the secondary packaging, usually in the form of larger cartons for transport and storage.

El Kendi ensures that its medicines are manufactured and packaged to the highest standards, aiming to provide safe and effective products that meet the needs of its customers.

2.1.2.2.2 Departments of El Kendi

Figure 15: Organizational chart of El Kendi



Source: Internal document

- **The Communication Department** is in charge of developing and implementing El Kendi’s communication strategy.

- **The Legal Department** is responsible for approving the contracts and the compliance of legal laws and the control of their application.
- **The Sales and Marketing Department** drives the organization's growth, enhances brand presence, and ensures long-term customer satisfaction and loyalty.
- **The commercial Operations Department** is the main responsible for supporting the sales team and optimizing operational efficiency and profitability.
- **Regulatory Affairs Department** ensures that the company's products are safe, effective, and compliant with regulatory standards, thereby protecting public health and the company's market access and reputation.
- **Medical and therapy Access** supports the company's commitment to employee-centred care.
- **Business Development** ensures long-term success through strategic initiatives and innovative opportunities.
- **Business Analytics** enables the organization to make data-driven decisions, optimize performance, and achieve strategic objectives.
- **The Finance Department** is responsible for developing policies and strategies in the area of finance. It evaluates their implementation and ensures the quality of financial information.
- **Sites** ensure that the organization can meet its production goals, safety, planning, purchasing, and engineering efforts.
- **Quality Head** integrates the efforts of quality assurance, validation, control, and compliance to ensure that the organization produces high-quality, safe, and effective products.
- **The Research and Development (R&D) Department** is responsible for advancing and executing the strategy of practical research and technology development within the Company's primary operations.
- **The Human Resources Department** is responsible for effectively managing its human capital. By attracting, developing, and retaining talent.

Our internship was done within The Finance Department.

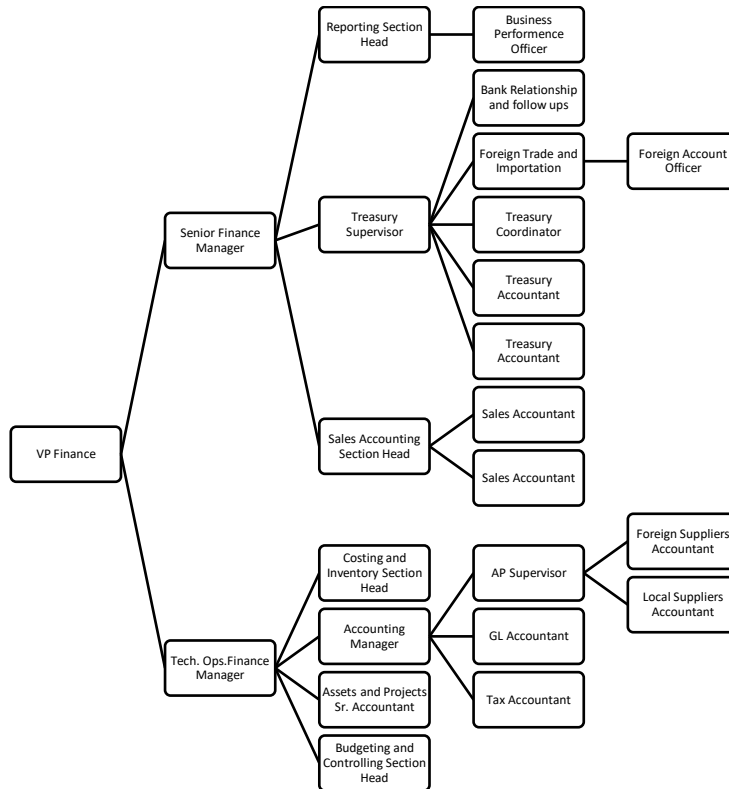
2.1.2.3 Presentation of the Department of Finance

The Finance Department plays a pivotal role in managing the financial aspects of our operations, ensuring stability, efficiency, and compliance.

2.1.2.3.1 Organizational Structure

The Finance Department at El Kendi Company is structured to effectively manage financial functions and responsibilities.

Figure 16: Organizational chart of the finance department



Source: Internal document

It comprises several key positions, including:

- Vice President of Finance
- Finance Managers
- Accounting Team
- Treasury Management Team
- Costing & Budgeting

2.1.2.3.2 Functions and Responsibilities

In El Kendi, the finance department oversees financial activities crucial for the organization's fiscal health. They manage financial planning, budgeting, accounting, and reporting, ensuring

compliance with regulations and internal policies. Utilizing AX software streamlines their operations, enabling efficient financial management and accurate record-keeping.

➤ **Budgeting and Controlling:**

- Responsible for developing annual financial plans and budgets aligned with organizational objectives.
- Monitors and controls expenditures to ensure adherence to budgetary allocations.

➤ **Accounting and Financial Reporting:**

- Manages all aspects of accounting, including accounts payable, accounts receivable, and general ledger.
- Prepares accurate and timely financial statements in accordance with accounting standards and regulations.

➤ **Treasury Management:**

- Manages cash flow, liquidity, and investments to optimize financial resources.
- Oversees banking relationships, debt financing, and risk management strategies.

➤ **Financial Analysis and Performance Evaluation:**

- Conducts financial analysis to assess performance, identify trends, and support decision-making.
- Provides insights through key performance indicators (KPIs) and financial metrics.

➤ **Compliance and Regulatory Reporting:**

- Ensures compliance with financial regulations, reporting requirements, and industry standards.
- Manages regulatory filings and audits to uphold transparency and accountability.

2.1.2.3.3 Objectives of the Department of Finance

- Developing the budgets aligned with goals.
- Monitoring and adjusting spending.
- Creating reports for decision-making.
- Analysing financial trends.

- Identifying and reducing financial risks.
- Following rules and standards.
- Managing cash and investments.
- Ensuring financial stability.
- Reducing expenses.
- Improving operational efficiency.

2.1.3 Research methodology

In this subsection, we will discuss the research methodology employed for this study. This will provide a clear understanding of how the research was conducted.

2.1.3.1 Presentation of the research design

The research design is a critical component of our study, providing a structured plan that outlines the method used, variables, limits and process.

2.1.3.1.1 Study method

The study case is about evaluating two variables and finding the relation between them and how can the second variable be impacted by the first one. In this case we can say we are following the descriptive analytical method, combining qualitative and quantitative elements to gain a comprehensive understanding of the phenomenon under investigation. Through studying and unveiling the hidden costs of El Kendi company, we aim to understand the impact of these costs on cost reduction.

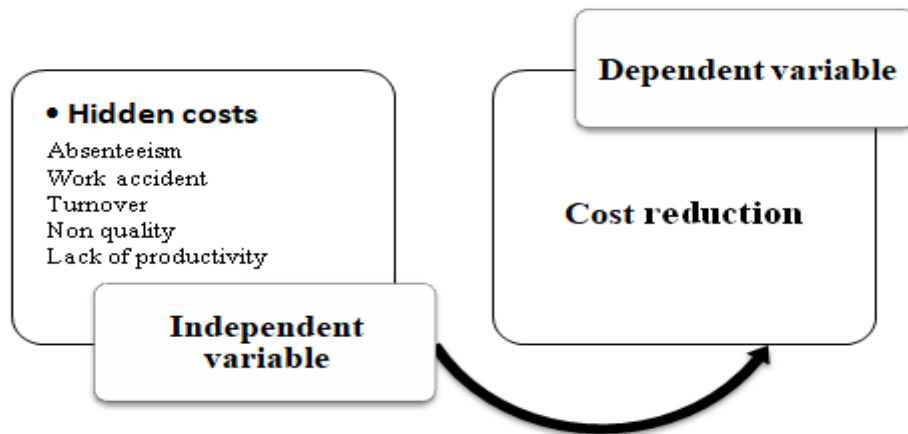
Mixed methodology: *“Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches for the purposes of breadth and depth of understanding and corroboration.”¹*

2.1.3.1.2 Study variable

Our study variables can be summarized as follows:

¹ John W. Creswell, Vicki L. Plano Clark (2011), [the nature of mixed methods research], Designing and Conducting Mixed Methods Research, Sage Publications, USA, p.4.

Figure 17: Study variables



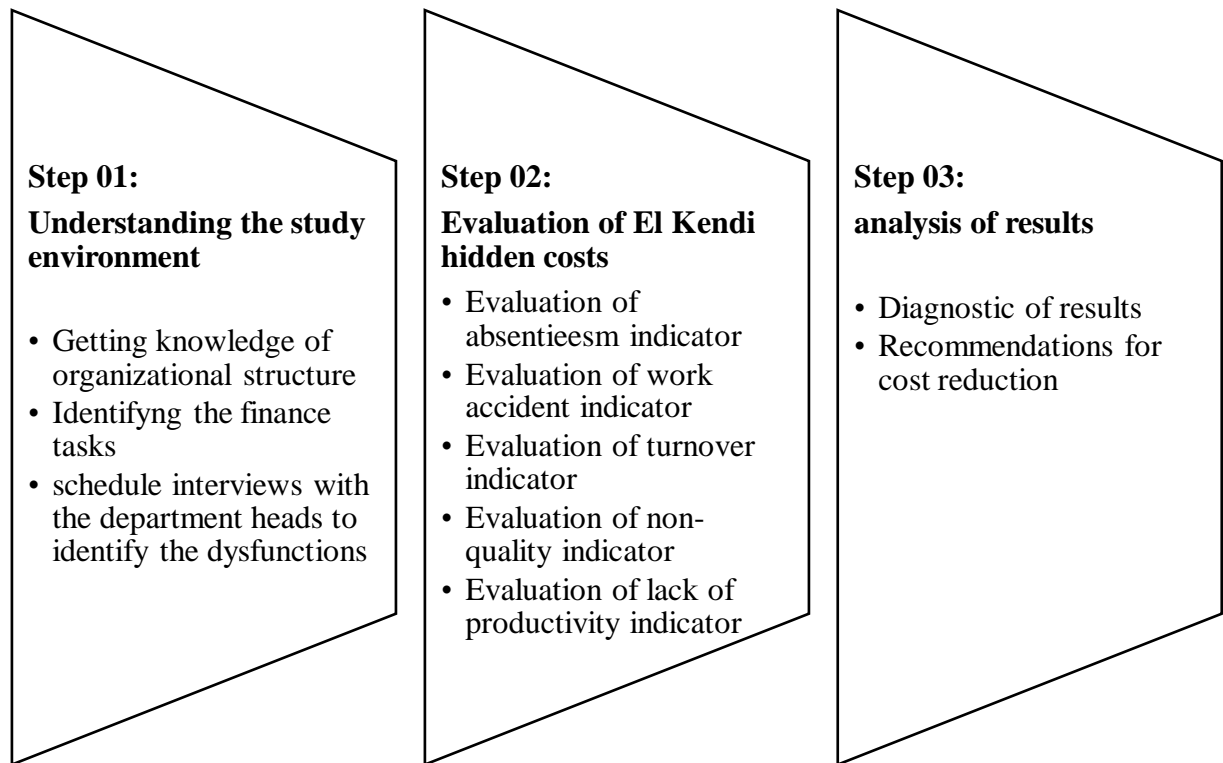
Source: Prepared by us

The figure indicates a causal relationship where the independent variable Hidden costs throw (Absenteeism, Work Accident, Turnover, Non-Quality, under Productivity) affect the dependent variable Cost Reduction. By addressing and managing the dysfunctions related to the independent variable, an organization can achieve better cost management and reduction. The arrow from the independent variable to the dependent variable illustrates this cause-and-effect relationship.

2.1.3.2 Research process

Our research process is devised in 3 steps as the following figure:

Figure 18: Study process



Source: prepared by us

The figure presents the steps we followed to organize our work

➤ **Understanding the study environment:** To thoroughly understand the study environment, we need to consider several key aspects that provide a comprehensive picture of the organizational setting and the factors influencing it. These aspects include:

- Getting knowledge of organizational structure by examining the company's mission, vision, and values to understand its core purpose and getting knowledge about hierarchy and functions.
- Identifying the finance tasks by detailing the primary tasks of accounting, budgeting, forecasting and costing.
- Schedule interviews with the section heads to identify the dysfunctions by preparing an interview guide to gather information about the dysfunctions, identifying hidden costs, and developing strategies for cost reduction.

➤ **Evaluation of El Kendi's hidden costs:**

To evaluate the hidden costs at El Kendi, we need to focus on several key indicators that reveal inefficiencies and areas for improvement. These indicators include absenteeism, work accidents, turnover, non-quality, and underproductivity. Each indicator is evaluated by the SOF method. In the social module, we relied on a questionnaire to understand the causes of dysfunctions and gather employee's opinions about it. For the organizational module, we used the results of interviews. In the financial module, we collected information from the company's documents.

➤ **Analysis of results:**

This step involves a comprehensive analysis of the data collected during the study to diagnose the current situation and propose recommendations for cost reduction. It is crucial to carefully examine the findings to identify key issues and develop actionable solutions.

2.1.3.3 Research tools

We used several tools:

2.1.3.3.1 Questionnaire

A questionnaire is a collection of questions administered to respondents to gather data on specific topics. It is a widely used tool in survey research to standardize the collection of information from a large number of respondents.¹

The purpose of our questionnaire (see APPENDIX I) is to identify the reasons behind dysfunctions, providing a comprehensive view of the workforce's perspectives and experiences.

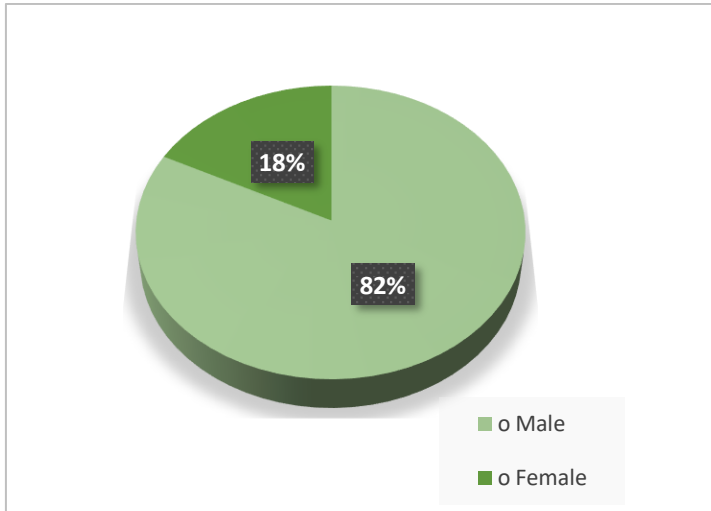
- **The Sample:**

the sample size is 40 employees from different departments of the site including: Production, Planning, Engineering, Quality and HSE.

¹ Alan Bryman (2016), *Social Research Methods*, OXFORD University Press, UK, p.695

The figures provided offer a comprehensive overview of the sample in question:

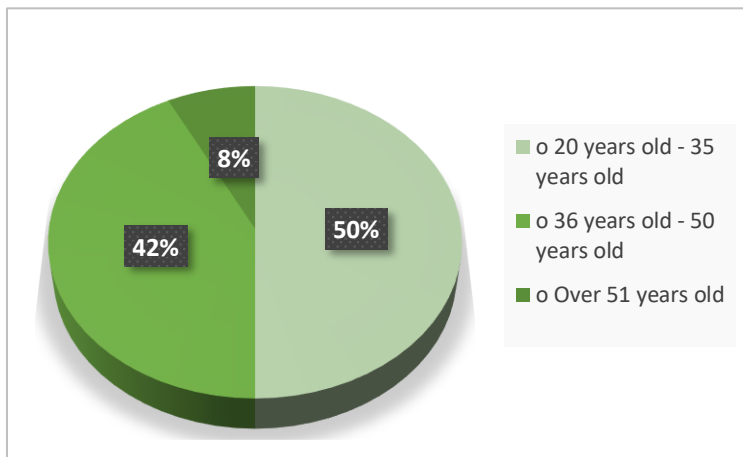
Figure 19: Sample Gender



The figure shows that 18% of our sample are female and the rest (82%) are Males

Source: transcribing the questionnaire

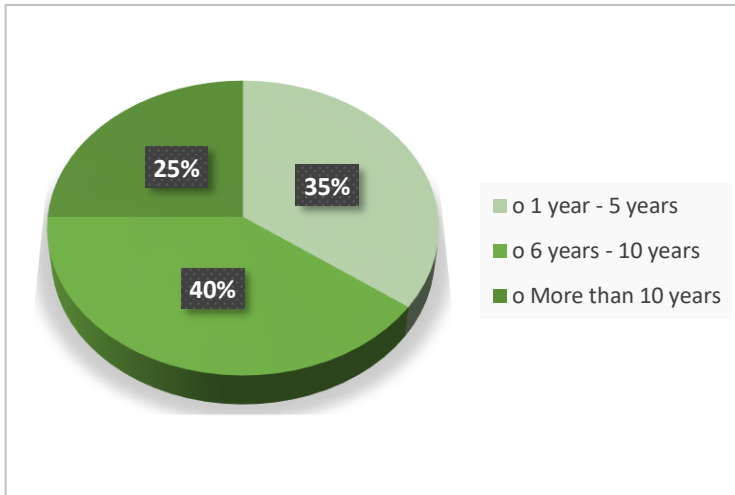
Figure 20: Sample Age Range



The figure shows the age range of the sample, it reveals that 50% are between the ages of 20 and 35, followed by 42% falling in the 36 to 50 age brackets, and only 8% are over 51 years old.

Source: transcribing the questionnaire

Figure 21: Experience years of the sample



This figure shows the experience years of the sample we took at El Kendi, 40% have 6-10 years of experience, 35% have worked for 1-5 years, and 25% have been in El Kendi for more than 10 years.

Source: transcribing the questionnaire

2.1.3.3.2 Interview:

“The interview is a short-term, secondary social interaction between two strangers with the explicit purpose of one person obtaining specific information from the other.”¹

- **Interview guide**

To carry out our mission, we developed an interview guide (see APPENDIX II). The interview guide is defined as: *“a list of the high-level topics that you plan on covering in the interview with the high-level questions that you want to answer under each topic.”²*

- **Interviewee profile:**

The individuals who participated in the interviews were selected based on their display of dysfunctional indicators and their position within the organization. A table has been provided below to offer more insight into the interviewees.

Table 6 : interviewee profiles

¹ W. Lawrence Neuman (2014), *Social Research Methods: Qualitative and Quantitative Approaches*, Pearson Education Limited, England, p.350.

² Tim Menzies, Laurie Williams, Thomas Zimmermann (2016), [*interviews*] *Perspectives on Data Science for Software Engineering*, Morgan Kaufmann, p 126.

Interview	Name	Position	Experience years	Duration
N°1	Hamid Frikh	HR administration manager	12 years	2h
N°2	Zahir Berrichi	HSE Head	7 months	30 min
N°3	Sabrina Touahria	HSE Section Head	11 years	45 min
N°4	Abd Elghani Hariti	Planning Officer	5 years	01h 30 min
N°5	Djamel Eddine Berkani	Quality assurance section head	12 years	40 min
N°6	Walid Salma	Production Manager	13 years	40 min

Source: Prepared by us

2.1.3.3.3 Data analysis:

” Data Analysis makes sense of the information accessed during the data-gathering phase. Analysis converts information into data”.¹

When it comes to analysing the data, we've decided to go with the summary approach. This means that we'll be compiling a summary of each response, extracting the information that's relevant to our research, and then delving into the results to see what we can learn. It's a straightforward and effective way to make sense of the data we've collected.

¹ Bruce L. Berg and Howard Lune (2013), [A Dramaturgical look at interviewing], Qualitative Research Methods for the Social Sciences, Global Edition, England, p.66.

In conclusion, this section provided an overview of the pharmaceutical sector in Algeria, with a specific focus on EL KENDI, an industry specializing in medical medicines. We highlighted EL KENDI's history, products, and its departments. Additionally, we introduced the methodology employed in our research, laying the groundwork for the subsequent analysis.

2.2 Unveiling El Kendi’s hidden costs

This section examines the application of the SOF (Social, Organizational, Financial) method to the five key indicators of hidden costs: absenteeism, work accidents, turnover, lack of quality, and underproductivity. These hidden costs can significantly affect an organization's efficiency and profitability. By utilizing the SOF method, we aim to provide a comprehensive approach to identifying and mitigating these costs from social, organizational, and financial perspectives. The analysis will detail how each indicator impacts the organization and demonstrate how the SOF method can be applied to effectively address and reduce these hidden expenses.

2.2.1 Evaluation of Absenteeism Hidden Costs

The evaluation of the hidden costs of absenteeism using the SOF method provides a comprehensive assessment of absenteeism's impact on El Kendi.

2.2.1.1 Social module

To evaluate absenteeism in the social we used both qualitative insights and quantitative data.

➤ **Qualitative:**

To identify the reasons and causes of Absenteeism, we carried out a questionnaire to gain a better understanding and diagnosis of the phenomenon, the following table shows the answers of site workers

Table 7: Employee satisfaction with the working environment

On a scale of 1 to 5, how would you rate your satisfaction with your working environment?	Number	percentage
1	2	5%
2	1	2.5%
3	4	10%
4	25	62.5%

5	8	20%
Total	40	100%

Source: Transcribing the questionnaire

The results of the questionnaire were distributed to 40 workers from various departments at the site. Let's delve deeper into these findings:

The majority of workers (83%) rated their satisfaction as 3 or higher. This indicates a generally positive perception of the working environment, which is a good indicator. However, we cannot ignore the small percentage (18%) of workers who reported being less satisfied. This could signal areas needing improvement, and we should take note of this feedback.

Table 8: Reasons for employee absenteeism

What is the main reason for your absenteeism from work?	Number	percentage
Personal reasons (family responsibilities, illness, other obligations, marriage, death, etc.)	26	65%
Supervision and leadership style	0	0%
Unsatisfactory salary	10	25%
Lack of motivation	4	10%
Total	40	100%

Source: Transcribing the questionnaire

When it comes to absenteeism, it appears that personal reasons are the predominant cause, affecting 65% of workers. This suggests that external factors have a significant influence on attendance. Interestingly, no workers reported absenteeism due to supervision and leadership style, indicating that management practices might not be a major issue. However, 25% cited

unsatisfactory salary and 10% cited a lack of motivation, which are areas where the company could intervene to reduce absenteeism.

➤ **Quantitative**

Table 9: Absenteeism Rate at El Kendi

Year	Workers number	Theoretical working days	Absence days	Actual working days	Absenteeism rate
2021	891	215 670	10 638	205032	5%
2022	808	195 536	10 145	185391	5%
2023	803	194 374	7 868	186506	4%

Source: Company’s documents: the annual Human Resources statistics

It should be noted that the workers of "El Kendi" company work 22 days a month, and considering that each worker is entitled to a full month of annual leave, they effectively work for 11 months each year, which means:

Theoretical working days = 22 days x 11 months x number of site workers

The table illustrates a positive trend in managing absenteeism from 2021 to 2023. With a decrease in both the number of absences and the absenteeism rate, alongside a reduction in the workforce, the company appears to be improving its operational efficiency and maintaining a productive environment despite challenges. This improvement could be attributed to better management practices, enhanced worker engagement, and potentially, an investment in employee well-being.

2.2.1.2 Organizational module

Table 10: Impact of absenteeism on team productivity: employee ratings

On a scale of 1 to 5, how would you rate the impact of absenteeism on your team's productivity?	Number	Percentage

1	3	7.5%
2	2	5%
3	8	20%
4	12	30%
5	15	37.5%
Total	40	100%

Source: Transcribing the questionnaire

The data shows a significant portion of respondents (68%) rate the impact of absenteeism on productivity as 4 or 5, suggesting that most employees feel absenteeism greatly affects their team's productivity. This highlights the importance of addressing absenteeism to maintain and improve productivity levels. Only a small fraction (13%) of respondents perceives absenteeism as having little to no impact, indicating that absenteeism is generally considered a serious issue by the majority of the workforce.

To understand the impact of absenteeism and the methods employed by EL KENDI to reduce absenteeism and lower its rate, we interviewed the Human Resources Manager of the company, who highlighted the following points:

Table 11: Interview on managing absenteeism: impact on performance and regulations strategies

Questions		Answers
Absenteeism indicator	Q1: What is the impact of absenteeism on the overall performance of the com-	<ul style="list-style-type: none"> • Absenteeism decreases work performance. • Absenteeism places physical and mental pressure on the remaining team members, affecting both their workload and the supervisor's time spent redistributing tasks. • Additionally, it delays goal achievement and diminishes overall productivity.

pany?	<ul style="list-style-type: none"> • When employees are absent, the company incurs additional costs due to others working extra hours, which exceeds the expenses of a standard work hour. • Extended absences, such as those due to maternity leave or work accidents, necessitate the company to hire temporary replacements on fixed-term contracts (CDD). • If absenteeism is caused by significant events like natural disasters or health crises (such as COVID-19), it profoundly impacts the company's operations, leading to widespread absenteeism and increased absenteeism rates. • The impact of absenteeism extends beyond the internal dynamics of a company to affect the broader economy and market of a country. For example, during a severe flu outbreak, absenteeism spikes across various industries as employees fall ill or need to care for sick family members. This widespread absenteeism can disrupt production schedules, delay project timelines, and reduce overall productivity across sectors, ultimately affecting the country's economic output and potentially leading to financial losses for businesses and decreased consumer confidence in the market.
Q2: What actions are being implemented to reduce absenteeism?	<ul style="list-style-type: none"> • Analysing absenteeism to its core involves identifying primary causes, understanding root factors, assessing organizational and external influences, quantifying impact, gathering qualitative insights, developing targeted strategies, and continuously monitoring and adjusting approaches to reduce absenteeism and enhance employee well-being and productivity.

Source: Transcribing the interview

2.2.1.3 Financial Module

Because of the confidential nature of company information and the company's complex method of calculating overtime wages, we have directly extracted from the company's documents the cost resulting from overtime hours arising from absenteeism.

Table 12 : Hidden Costs of Absenteeism

Unit: DA

Years	The cost of compensating the absentee worker
2021	107,598,771
2022	98,665,662.6
2023	78,932,530.15
Total	285,196,964

Source: Company's documents: Accounting software data extract

In the above table, we note that the company incurs a total hidden cost in 2021 estimated at 107,598,771 DA, in 2022 estimated at 98,665,662.6 and 78,932,530.15 as a result of the absence of the workers of the site only in the company, not counting the hidden costs resulting from the same indicator for the rest of the other company departments.

2.2.1.4 Analysis of the result

It is important to mention that these hidden costs are only related to the site based on our study.

- **High Initial Costs:** In the first year, the cost of compensating for absent workers was 107,598,771 DA. This high cost reflects the substantial hidden costs associated with absenteeism, including lost productivity, overtime pay for other workers, and potential delays in projects.
- **Decreasing Costs Over Time:** This consistent reduction over three years suggests that the measures taken to address absenteeism were effective in mitigating its hidden costs.
- **Effectiveness of Interventions:** Managers address the root causes of absenteeism and implement flexible working policies. This indicates that investing in policies to reduce absenteeism can lead to significant cost savings over time.
- **Productivity Improvements:** Although not quantified, the improvement in productivity due to reduced absenteeism would contribute to cost savings as well.

Teams working more efficiently with fewer disruptions likely enhanced overall productivity, reducing indirect costs.

In summary, the data demonstrates that by understanding and managing the hidden costs of absenteeism, significant cost reductions can be achieved, benefiting the organization's financial health over time.

2.2.2 Evaluation of Work Accident Hidden Costs

We focused on the comprehensive evaluation of hidden costs associated with work accidents within El Kendi.

2.2.2.1 Social Module

To evaluate work accidents in the social module we used both qualitative insights and quantitative data.

➤ **Qualitative:**

Table 13: Employee satisfaction with workplace safety conditions

On a scale of 1 to 5, how satisfied are you with the safety conditions?	Number	Percentage
1	9	23%
2	7	18%
3	5	13%
4	14	35%
5	5	13%
Total	40	100%

Source: Transcribing the Questionnaire

According to the table above, we remark that:

A large number of workers (41%) expressed dissatisfaction with the safety conditions, giving a low rating of 1 or 2. Followed by 13% of employees who rated safety conditions as 3 out of 5, with also (13%) giving it the highest rating. The majority of employees (35%) gave a moderate rating of 4 which indicates some level of satisfaction.

Table 14: Reasons for workplace accidents

What are the reasons for workplace accidents?	Number	Percentage
Lack of training and inability of employees to keep up with technology and use machines	10	25%
Lack of maintenance of equipment and machinery	6	15%
Workplace accidents are the result of careless actions on the part of employees	19	47.5%
Inappropriate physical conditions (high temperatures, noise, inadequate lighting, dust, etc.)	5	12.5%
Total	40	100%

Source: Transcribing the Questionnaire

Nearly half of workplace accidents (47.5%) can be attributed to employee negligence, while a quarter is due to insufficient training and technological knowledge. This suggests that employees may lack the necessary skills to operate machinery and tools safely. Another contributing factor is the lack of equipment maintenance, which accounts for (15%) of accidents. In addition, (12.5%) of workers have cited unsuitable working conditions as the cause of accidents, pointing to the need for improvements in the working environment to ensure safety.

➤ **Quantitative:**

Table 15: Work accidents at El Kendi (2021-2023)

Years	The number of workplace accidents		Extra days	Recurring rate of accidents	Severity rate of work accidents
	Simple	Dangerous			
2021	10	1	99	53,65	0,48
2022	18	1	284	102,49	1,53
2023	14	1	139	80,43	0,75

Source: Company's Documents: the annual HSE statistics

The number of workplace accidents increased in 2022 but decreased in 2023. Extra days lost due to accidents also increased in 2022 but decreased in 2023, though they remained higher than in 2021. The recurring rate of accidents nearly doubled in 2022 but decreased in 2023, still higher than in 2021. The severity rate of accidents increased in 2022 but decreased in 2023, though it remained higher than in 2021. Overall, there was an improvement in 2023 compared to 2022, but the rates were still higher than in 2021. Dangerous accidents remained constant each year.

2.2.2.2 Organizational Module

We interviewed EL KENDI's HSE Head and Section Head to gain insight into the effects of workplace accidents and the strategies that the company uses to prevent them and decrease their frequency. The following points were emphasized during our conversation.

Table 16: Work accident impacts and prevention strategies

Questions	Answers
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Work Accident indicator	Q1: What are the financial and operational impacts of workplace accidents?	<ul style="list-style-type: none"> • Reduced productivity. • Costs for evacuating and caring for the victim. • An increased rate of workplace accidents, harming the company’s reputation and potentially leading to sanctions from labour inspection. • Managers losing valuable time handling the accident instead of focusing on their primary tasks such as achieving the fixed objectives. • The company covers the costs of on-site doctor and nurse services. • Underestimating the company’s capabilities.
	Q2: What safety measures are in place to prevent workplace accident?	<ul style="list-style-type: none"> • Conduct a historical study (including the department involved and how the accident occurred) to identify the causes of the accident), and working to discover solutions and essential steps to alleviate these underlying factors • Implement safety measures such as employee training, awareness programs, near-miss reporting, and providing personal protective equipment. • Apply a “Stop for safety” procedure, where HSE safety officers visit the accident site, explain the accident to other employees to prevent recurrence, and communicate findings to other departments. • Establish a “Pyramid of Evaluation” policy, where a supervisor assesses employees on their adherence to safety measures, and managers evaluate supervisors based on their team safety performance.

Source: Transcribing the Interview

2.2.2.3 Financial Module

The company incurs many costs, including compensation costs for the injured worker due to work stoppage for a certain period, which can extend to several days. Additionally, there are costs for providing first aid and treatment to injured workers, as well as other administrative costs such as the salaries of doctors and nurses. These hidden costs can be summarized in the following table:

The remuneration of the compensated worker is calculated by

$$\text{the remuneration of one extra day} = \frac{\text{absenteeism hidden cost}}{\text{absence number}}$$

the remuneration of one extra day X extra days of work accident = the remuneration of the compensated worker

The company faces numerous expenses due to work-related accidents, including compensation for injured employees during work suspension, ambulance and medical treatment expenses. These hidden costs can be itemized in the following table:

Table 17: Work Accident Hidden Costs (2021-2023)

Unit: DA

Cost elements/ year	2021	2022	2023
The remuneration of the compensated worker	1,001,342.20	2,762,055.02	1,394,461.31
Expenses for transportation and Ambulance of the injured worker	464,000	310,000	166,000
Accident's administration expenses	7,003,722	5,874,903	4,942,671
The cost of compensation for the injured worker	8,469,064.2	8,946,958.02	6,503,132.31
By subtracting what was calculated in the absenteeism	1,001,342.20	2,762,055.02	1,394,461.31
The Hidden Cost of the Work Accident	7,467,722	6,184,903	5,108,671

Source: Company's Documents: Accounting software data extract

The remuneration of compensated workers increased significantly from 2021 to 2022, but decreased in 2023.

Expenses for transportation and ambulance services also decreased each year. Administrative expenses remained constant. The cost of compensation for injured workers decreased over the years, as did the hidden costs of work accidents. Overall, there has been a positive trend in reducing the financial impact of workplace accidents.

Recommendations include maintaining and improving safety measures, analysing administrative costs for efficiency improvements, and focusing on high-risk areas to further reduce expenses.

2.2.2.4 Analysis of the results

It is important to mention that these hidden costs are only related to the site based on our study.

- **Employee Satisfaction and Safety Conditions:** Enhanced safety conditions can lead to fewer accidents, reducing associated costs. Addressing employee negligence and improving training can directly reduce accidents and related costs.
- **Organizational Efforts:** Proactive safety measures and historical analyses demonstrate strategic approaches to accident prevention. These efforts likely contributed to observed cost reductions.
- **Hidden Costs of Work Accidents:** A significant decrease over three years reflects the impact of effective safety interventions.

By addressing the root causes of workplace accidents, implementing effective safety measures, and conducting thorough analyses, organizations can significantly reduce accident rates and associated costs over time. Continued focus on enhancing safety conditions and training programs will lead to sustained cost savings and a safer work **environment**

2.2.3 Evaluation of turnover indicator

As previously mentioned in the evaluations, we will assess the turnover index according to Henry's evaluation model, based on the three scales that concern the entry and exit of employees into positions, as well as the various costs associated with them.

2.2.3.1 Social module

To evaluate turnover in the social module we used both qualitative insights and quantitative data.

The table outlines the costs related to worker compensation and accident management from 2021 to 2023, showing significant trends. Remuneration for compensated workers peaked in 2022 before decreasing in 2023, while expenses for transportation and ambulance services consistently declined. Accident administration expenses also showed a steady reduction each year. The cost of compensation for injured workers increased slightly in 2022 but dropped notably in 2023. The hidden costs of work accidents decreased annually, indicating improved workplace safety and cost management. Overall, these trends suggest effective measures in reducing both direct and indirect costs associated with workplace accidents

➤ Qualitative

Table 18: Identifying staff turnover causes: employee perspectives

In your opinion, what are the main reasons for staff turnover within the company?	40	100%
Supervision and leadership style	3	8%
Unsatisfactory pay	19	48%
Work pressure and lack of motivation	16	40%
Lack of clarity about tasks and responsibilities	2	5%
Total	40	100%

Source: Transcribing the Questionnaire

When it comes to the reasons behind turnover, 48% of workers believe that unsatisfactory pay is the primary cause of high turnover rates, while 40% attribute it to work pressure and lack of motivation that comes with their job. Interestingly, only 8% of employees think that poor supervision and leadership style are to blame, and 5% believe that a lack of clarity around

their tasks and responsibilities is the cause. In order to reduce turnover and retain top talent they need to pay attention to these key drivers and take action to address them.

➤ **Quantitative**

Table 19: El Kendi's turnover statics

Years		2021	2022	2023
Enter		46	37	38
Exiting	Retirement	0	1	0
	Resignation	45	34	37
	Dismissal	1	0	0
	Death	1	0	0
	Expiration of the contract	1	0	0
	Contract termination	6	0	2
	Lay off	3	0	3
	Total	57	35	42
Departure rate		6.4%	4.3%	5.2%
Replacement rate		5.1%	4.6%	4.7%
Turnover rate		11.5%	8.9%	9.9%

Source: Company's documents: the annual Human Resources statistics

- Departure rate = $\frac{\text{Number of individuals leaving employment during a period of time}}{\text{Average number of employees during that same period of time}} \times 100$
- Replacement rate = $\frac{\text{Number of individuals hired during a period of time}}{\text{Average number of employees during that same period of time}} \times 100$
- Turnover rate =

$$\frac{\text{Number of individuals leaving employment} + \text{Number of individuals hired during a period}}{\text{Average number of employees during that same period of time}} \times 100$$

It is important to mention that according to Henri Savall, hidden costs don't count unless the turnover rate is above 5%.

From the above table, we observe that the rate of workers joining helps the organization estimate and understand the size of recruitment, replacement costs, and hiring costs over a certain period. However, it does not provide precise information about the newly employed individuals. As seen from the results, the replacement rate is calculated without distinguishing the underlying reasons. It indicates the percentage of employees who joined during a certain period in general. The replacement rates recorded for the years 2021, 2022, and 2023 were at 5.1%, 4.6%, and 4.7% respectively.

On the other hand, the departure rate slightly exceeds the replacement rate in 2021 and 2023, with the departure rates for the years 2021, 2022, and 2023 being 6.4%, 4.3%, and 5.2% respectively. The majority of these departures are due to employees resigning from their positions.

As for the turnover rate in the organization, it was 11.5% in 2021, which is the highest rate recorded by the organization during the studied three-year period. It dropped to 8.9% in 2022, The rate then rose to 9.9% in 2023. This increase is due to both internal and external factors within the organization, aligning with the previously mentioned reasons in the accompanying social scale questionnaire.

Thus, El Kendi recorded a turnover rate higher than the desired rate during the studied three-year period, consequently bearing hidden costs.

2.2.3.2 Organizational module

Table 20: Impact of staff turnover on team efficiency and company performance

How does staff turnover affect the efficiency of your team and the company in general?	Number	Percentage
The company incurs significant costs in the process of separating an employee, training a new employee, and recruiting a new one.	10	25%
Staff turnover leads to interruptions or slowdowns in production activity	9	23%
Employees' lack of experience in their new roles and difficulty in adapting to their new environment	13	33%
Reduced product quality	8	20%
Total	40	100%

Source: Transcribing the Questionnaire

According to the survey, a significant number of employees (33%) find that a high rate of turnover creates difficulty in the adaption of new employees to their work environment. Additionally, 25% of respondents cited the financial costs of hiring and training as a major issue, while 23% noted that turnover can lead to interruptions or slowdowns in production activity. Finally, 20% of those surveyed believed that employee turnover can have a negative impact on product quality. These findings highlight the importance of effective retention strategies and the need for businesses to prioritize employee satisfaction and engagement.

2.2.3.2.1 Interview about turnover

Table 21: Understanding turnover impact and reduction strategies

Questions		Answers
Turnover indicator	Q1: What is the impact of turnover on the overall performance of the com-	<ul style="list-style-type: none"> • When a company experiences a high departure rate, it's a clear sign that the organization is not in good health. • Losing employees for whatever reason can have a significant impact on the work environment, especially if the departing individual is a manager or supervisor. It can take some time for the team to adapt to the new work methods of the incoming manager, causing delays and in-

<p>pany?</p>	<p>efficiencies.</p> <ul style="list-style-type: none"> • Hiring new employees is a crucial phase for any company, and to ensure they find the best possible candidates, many organizations turn to hiring agencies which can be costly. For us, we use Emploitic. • It also requires significant time and effort spent by supervisors conducting interviews to select the best candidates. • Additionally, training new employees can also be costly. In some cases, companies may also experience the cost of failed hiring, when they hire someone who doesn't align with the company's values and vision. • The impact of high turnover rates can be felt in many ways, including a decrease in productivity and a reduction in the company's overall capacity to perform.
<p>Q2: What actions are being implemented to reduce turnover?</p>	<ul style="list-style-type: none"> • At our company, we firmly believe in transparency and open communication when it comes to our values and vision. • We have well-defined procedures, with each position having its own descriptive file outlining tasks, conditions, and salary information. • To ensure that our employees are content and loyal, we conduct annual benchmarking analyses to compare our salaries with those of other companies. • We strive to offer a positive and clean social environment, where everyone feels respected and valued. • In addition to organizing regular events such as "coffee corner," where employees can share their ideas and suggestions with the general manager. • We have created a platform for them to voice any concerns or complaints they may have. • We go above and beyond to support our team members, offering benefits such as reimbursement for medications that CNAS doesn't cover. • We also have a recognition policy, where we reward employees with gifts and bonuses for their hard work. • To make their lives easier, we provide daily food and transportation services. And, we encourage managers to take their teams out for bonding activities, further strengthening our company's community. <p>Overall, we are committed to creating a positive and ful-</p>

		filling work environment for all our employees.
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Source: Transcribing the Interview

2.2.3.3 Financial module:

Table 22: Annual turnover hidden costs (2021-2023)

Unit: DA

Year	Hiring agency fees (Emploitic)	Compensation of departure	Turnover hidden costs
2021	380,000	2,084,814.81	2,464,814.81
2022	1,190,000	1,331,074.07	2,521,074.07
2023	1,345,890	1,603,703.7	2,949,593.7

Source: Company's documents: Accounting software data extract

It's quite evident that the expenses for utilizing the Emploitic platform are on the rise every year. In fact, from 2021 to 2022, the costs have skyrocketed by 213%. But that doesn't mean it is due to the departure of old employees. It's entirely possible that El Kendi has ramped up its production and requires a larger workforce. However, the process of recruiting new employees is undoubtedly a costly affair. After all, it involves a considerable investment of time, effort, and resources.

The compensation of departure shows a peak in 2021 at 2,084,814.81, followed by a decrease in 2022 to 1,331,074.07, and a rise again in 2023 to 1,603,703.70. The fluctuations in these figures could reflect varying severance packages, voluntary exits, or the number of departures in each year.

The overall turnover hidden costs have grown each year, starting from 2,464,814.81 in 2021 to 2,949,593.70 in 2023. This increasing trend highlights the escalating financial impact of employee turnover on the organization.

2.2.3.4 Analysis and results:

It is important to mention that these hidden costs are only related to the site based on our study.

- **Cost Reduction:** Lower turnover reduces recruitment and training costs, saving nearly 8 million DA over three years.
- **Operational Efficiency:** A consistent workforce maintains high productivity and product quality.
- **Employee Morale:** Addressing turnover drivers improves job satisfaction and retention.
- **Strategic Benefits:** Enhanced reputation and focus on growth initiatives.

By unveiling and addressing the hidden costs of turnover, El Kendi can significantly reduce overall costs and improve organizational performance and employee satisfaction.

2.2.4 Evaluation of non-quality hidden costs

It is noteworthy to highlight that since El Kendi produces medications, the concern about non-quality mainly revolves around product defects that make them unsellable. This results in a significant financial loss for the company.

2.2.4.1 Social module

- **Qualitative:**

Table 23: Assessing employee perceptions of product quality at El Kendi

On a scale of 1 to 5, how would you rate the quality of the pharmaceutical products manufactured by the company?	Number	Percentage
1	0	0%
2	2	5%

3	2	5%
4	10	25%
5	26	65%
Total	40	100%

Source: Transcribing the Questionnaire

We surveyed 40 of El Kendi's employees and discovered that an impressive 65% of them rated the quality of products as a perfect 5 out of 5. Another 25% rated it a respectable 4 out of 5. However, 5% of El Kendi's employees expressed dissatisfaction with a 3 out of 5 rating, while another 5% gave it a 2 out of 5 rating. While the overall quantity of defects in El Kendi's products is small in comparison to the total amount produced, it remains a significant issue that El Kendi is currently grappling with.

Table 24: Identifying the causes of defective products

in your opinion, what is the reason for the existence of defective products?	Number	Percentage
Use of old machinery	6	15%
Raw materials used do not comply with standards	0	0%
Lack of skills	14	35%
A large number of orders puts pressure on production	20	50%
Total	40	100%

Source: Transcribing the Questionnaire

Based on the results of our questionnaire, it appears that 50% of employees believe that the primary cause of defective products is the overwhelming number of orders that puts immense pressure on the production process. This was followed by 35% of respondents who pointed

towards the lack of skills or mistakes made by employees as the root cause of the problem. And only 15% of those surveyed attributed the issue to the use of old machinery.

➤ **Quantitative:**

Due to the lack of access to the necessary data we were unable to calculate the non-quality rates.

2.2.4.2 Organisational module

Table 25: Employee perspectives on training for product quality improvement

To what extent do you think that ongoing staff training can help to improve the quality of products manufactured?	Number	Percentage
1	1	2.5%
2	0	0%
3	2	5%
4	5	12.5%
5	32	80%
Total	40	100%

Source: Transcribing the Questionnaire

Training is a vital tool for companies to decrease their high rate of errors. We wanted to know the opinions of El Kendi’s employees on how ongoing staff training can help the quality of their manufactured products. It's great to see that 80% of them rated it 5 out of 5, while 13% rated it 4 out of 5. Clearly, their employees recognize the importance of continuous learning and development.

2.2.4.2.1 Interview about non-quality

Table 26: Insights on non-quality impact and cost reduction strategies

Questions		Answers	
Non-quality indicator	Q1: What is the impact of non-quality on customer satisfaction and production costs?	Quality assurance	<p>First and foremost, non-quality or non-conformity represents a defect that must not reach the client, a responsibility upheld by the Quality Assurance department. We are the final guarantee ensuring the quality of our products.</p> <ul style="list-style-type: none"> • The main concern is our clients' health, which is why we follow an extensive quality process. • In general, non-quality leads to losing clients' trust. • Because medications are sensitive, any issue in quality can be costly if the product is rejected. We have two options: either we can fix it by making adjustments, such as purchasing new raw materials, and remanufacturing the product, or we must discard the entire batch, resulting in significant financial losses and wasted time.
		Planning	<ul style="list-style-type: none"> • Impacting the health of our clients. • Damaging the company's reputation and image. • Necessitating the withdrawal of products from the market. • Incurring financial penalties from the government. • Overloading the warehouse capacity with defective products, which prevents us from producing new products.
	Q2: What actions are being implemented to reduce non-quality costs?	Quality assurance	<ul style="list-style-type: none"> • The quality department comprises four services: Quality Assurance, Quality Control, Quality Compliance, and Quality Validation. Each service has specific tasks and processes that adhere to every step of the production cycle. • We follow Good Manufacturing Practices (GMPs) regulations which <i>“Require a quality approach to manufacturing, enabling companies to minimize or eliminate instances of contamination, mix-ups, and errors.”</i>¹

¹ International Society for Pharmaceutical Engineering (ISPE), What is GMP, <https://ispe.org/initiatives/regulatory-resources/gmp/what-is-gmp> [18/05/2024 at 19:00]

			<ul style="list-style-type: none"> We also adhere Standard Operating Procedures (SOPs) which “is a tested, verified, approved, and documented way of executing operations that form the pharmaceutical industry’s basis. It provides step-by-step guidance for the personnel to perform a specific process.”¹ When we purchase raw materials, they must be inspected and approved by the government. Additionally, if we are going to produce a new product, we need to produce 3 to 4 batches and submit them to the ministry for approval.
		Planning	<ul style="list-style-type: none"> We must adhere to specific laws to achieve high-quality and efficient products. Auditing is an integral part of quality assurance. Employees must be regularly updated and trained on time. Supervisors play a crucial role in ensuring compliance with GMP (Good Manufacturing Practices).

Source: Transcribing the Interview

2.2.4.3 Financial module

It is worth mentioning that due to the confidential nature of El Kendi’s data, these costs are only approximate.

Table 27: Annual defective product costs (2021-2023)

Unit: DA

Years	Defective products costs (non-conforme)	Expenses for burning defective products/ expired products	Hidden costs of non-quality
2021	227,728,662.8	2,199,150,73	229,927,813.53

¹ Manoj Bashuka, SOP Management in Pharmaceutical Industry, <https://www.linkedin.com/pulse/sop-management-pharmaceutical-industry-manoj-bashuka-padmapriya/> [18/05/2024 at 19:50]

2022	850 614 384.13	6,749,117.75	857,363,501.88
2023	1,046,652,252.93	7,583,278.37	1,054,235,531.3

Source: Company's documents: Accounting software data extract

The data presented on defective products costs over the years 2021 to 2023 shows a significant and alarming upward trend. The costs increased from 227,728,662.8 DA in 2021 to 850,614,384.13 DA in 2022, and further to 1,046,652,252.93 DA in 2023. The total cost over these three years amounts to 2,124,995,299.86 DA.

The expenses for burning defective or expired products have also seen a notable increase, from 2,199,150.73 in 2021 to 7,583,278.37 in 2023. This escalation suggests a higher volume of products being deemed unfit for sale, further exacerbating the costs related to non-quality.

The total hidden costs of non-quality have surged from 229,927,813.53 in 2021 to 1,054,235,531.30 in 2023. This comprehensive figure includes both the direct costs of defective products and the expenses incurred in disposing of them. The rising hidden costs reflect not only the financial burden but also the potential reputational damage and loss of customer trust that can result from ongoing quality issues.

2.2.4.4 Results and analysis

➤ Identifying Root Causes:

- Manage production schedules to reduce pressure and errors.
- Invest in targeted employee training to close skill gaps.
- Upgrade outdated machinery to improve reliability and reduce defects.

➤ Enhancing Training Programs:

- Provide ongoing training to reduce errors and improve quality.
- Focus on skill development to decrease mistakes.

➤ Optimizing Production Planning:

- Balance workloads to allow thorough quality checks and prevent rushed, faulty production.

➤ Improving Quality Assurance Practices:

- Strengthen compliance with GMP and SOP to minimize errors and contamination.

- Conduct regular audits to catch defects early and prevent large-scale issues.
- **Financial Savings:**
 - Reduce rework and material costs by minimizing defects.
 - Lower recall expenses and avoid fines by maintaining high quality.

Addressing the hidden costs of non-quality through targeted strategies can enhance product quality, reduce financial losses, and improve El Kendi's overall profitability.

2.2.5 Evaluation of productivity differences hidden costs:

This evaluation delves into the intricacies of productivity variations across different facets of operations, uncovering underlying expenses that may not be immediately apparent. Understanding and addressing these hidden costs are crucial for optimizing performance and maximizing resources effectively.

2.2.5.1 Social module

To evaluate the under productivity in the social module we used both qualitative insights and quantitative data.

- **Qualitative:**

Table 28: Identifying causes of productivity variances: insights from employees

In your opinion, what are the causes of productivity differences between estimated and actual quantities?	Number	Percentage
Stoppage of certain machines means that production is halted for a certain period of time, resulting in loss of output, reduced sales opportunities, and loss of profit.	13	33%
Lack of harmony, collaboration, and teamwork within the work team	2	5%
Staff shortages	10	25%
Problems in the planning phase	15	38%
Total	40	100%

Source: Transcribing the Questionnaire

According to the questionnaire results, it appears that there are a few key reasons why there may be a difference between estimated and actual quantities in terms of productivity. 38% of respondents cited that planning problems as the primary cause of productivity differences, while 33% noted that machine stoppages were the main reason. Interestingly, a quarter of those surveyed felt that staff shortages were to blame, while just 5% believed that a lack of teamwork and collaboration was responsible for the issue.

➤ **Quantitative:**

Table 29: The rate for labour productivity (2021-2023)

Unit: DA

Year	Output	Labour	Labour productivity
2021	6,200,058,934	891	<i>Output/Labour</i> = 6,958,540
2022	6,010,198,033	808	<i>Output/Labour</i> = 7,438,364
2023	6,139,677,754	803	<i>Output/Labour</i> = 7,645,925

Source: Company's documents: Accounting software data extract

The data shows labour productivity trends at El Kendi, calculated as the ratio of output to labor. This metric provides insights into how efficiently the company uses its labour force to generate output.

- **2021:** The labour productivity in 2021 was 6,958,540, meaning each labour unit produced an output valued at 6,958,540.
- **2022:** In 2022, labour productivity increased to 7,438,364, reflecting improved efficiency as the company produced more output per labour unit despite a slight reduction in total output.
- **2023:** By 2023, labour productivity further increased to 7,645,925, indicating continued improvement in efficiency, with output per labour unit rising even as the total number of labor units slightly decreased.

2.2.5.2 Organizational module

Table 30: Exploring Under-Productivity Impact and Optimization Strategies

Questions		Answers	
Under-productivity indicator	Q1: How does under-productivity affect the company's profitability?	Production	<ul style="list-style-type: none"> • Inability to Meet Daily Production Targets: The company may fail to reach its daily production quotas. • loss of clients due to delivery delays. • The underutilization of expensive machinery negatively impacts the return on investment. These machines were purchased to boost productivity, so their underuse represents a significant financial loss. • Increased Pressure on Workers: If production targets are not met, workers must double their efforts to meet delivery deadlines. This can • compromise quality and result in material losses.
		Planning Officer	<ul style="list-style-type: none"> • Increasing operational costs. • Reducing overall output and sales opportunities. • Damaging customer satisfaction and future sales. • Reducing competitive edge in the market. • Limiting investment in growth and strategic opportunities.
	Q2: How does the company identify and correct the sources of underproductivity?	Production Manager	<ul style="list-style-type: none"> • Allocate the optimal space, machinery, and human resources for product production. • Ensure employees are qualified by providing regular training. Implement clear methods and standard operating procedures (SOPs) in each production room. Invest in machinery to boost productivity. • Streamline the packaging process into a single production line to save management time and have one manager instead of two.

			<ul style="list-style-type: none"> • Rely on local suppliers for packaging materials to reduce delivery time. • Reduce the packaging size of medicines to save on storage space and materials used for packaging.
		Planning Officer	<ul style="list-style-type: none"> • To ensure smooth operations, we implement periodic checks and eliminate any potential risks that may cause disruptions. • We also invest in our workforce by providing comprehensive training to equip our employees with the necessary skills to excel in their roles. • As we strive to achieve our long-term vision, we prioritize investing in our production process to reap its benefits in the future. • To guarantee clarity and accountability, we have detailed job descriptions that outline the responsibilities of each position. • Lastly, we hire highly qualified and versatile individuals who can adapt to our dynamic work environment.

Source: Transcribing the Interview

2.2.5.3 Financial module

It is worth mentioning that due to the confidential nature of El Kendi’s data, these costs are only approximate.

Table 31: Annual cost of under-productivity (2021-2023)

Unit: DA

Year	Expected production (in value)	Actual production (in value)	Hidden costs of under-productivity (non-creation of potential)
2021	6,870,695,252	6,246,086,593	624,608,659

2022	6,641,268,826	6,448,426,233	631,070,793
2023	7,212,400,610	6,439,643,402	772,757,208

Source: Company's Documents: Accounting software data extract

The data on under-productivity at El Kendi indicates a consistent gap between expected and actual production values over the three-year period from 2021 to 2023, leading to significant hidden costs.

There is a noticeable shortfall between expected production and actual production each year. In 2021, the expected production was 6,870,695,252, while actual production was 6,246,086,593, resulting in a shortfall of 624,608,659. Similarly, in 2022 and 2023, the shortfalls were 192,842,593 and 772,757,208, respectively. This indicates a recurring issue with meeting production targets.

The hidden costs of under-productivity reflect the lost potential due to not achieving expected production values. These costs have shown an upward trend, increasing from 624,608,659 in 2021 to 772,757,208 in 2023. The rise in these hidden costs suggests that the gap between expected and actual production is widening, which is a concerning trend for the company.

2.2.5.4 Results and analysis:

The increasing hidden costs of under-productivity highlight the need for El Kendi to address the factors contributing to these production shortfalls. Several potential areas for improvement could be considered:

- **Efficiency Improvements:** Identifying bottlenecks in the production process and implementing measures to streamline operations could help in closing the gap between expected and actual production.
- **Resource Management:** Ensuring that resources, including labour and materials, are utilized optimally can enhance production efficiency.
- **Technology and Innovation:** Investing in advanced technologies and innovative practices could boost production capabilities and reduce the likelihood of under-productivity.
- **Training and Development:** Providing ongoing training for employees to improve their skills and efficiency can lead to better production outcomes.

By focusing on these areas, El Kendi can work towards reducing the hidden costs associated with under-productivity, thereby enhancing overall operational efficiency and contributing to the company's profitability and competitiveness.

In conclusion, by applying the SOF (Social, Organizational, Financial) method to the key indicators of hidden costs: absenteeism, work accidents, turnover, lack of quality, and underproductivity, we gain a holistic understanding of how these factors undermine organizational efficiency and profitability. The comprehensive approach offered by the SOF method allows us to identify and mitigate these costs effectively. Our analysis highlights the specific impacts of each indicator and demonstrates practical applications of the SOF method in addressing and reducing these hidden expenses. Ultimately, this methodology provides a robust framework for enhancing overall organizational performance and financial health.

Conclusion

This chapter has comprehensively examined the impact of unveiling hidden costs on cost reduction within EL KENDI, a leading pharmaceutical institution in Algeria. By employing the descriptive-analytical method, we have meticulously analysed the economic implications of hidden costs, utilizing various statistical techniques and treatments relevant to the study.

We analysed the data collected from our field study at EL KENDI. The results clearly demonstrate that identifying and addressing hidden costs such as absenteeism, work accidents, turnover, lack of quality, and underproductivity can lead to significant cost reductions. These findings confirm the validity of our hypotheses and highlight the importance of a comprehensive approach to cost management.

Overall, this chapter underscores the critical role of uncovering hidden costs in enhancing the efficiency and profitability of economic institutions. By applying the SOF method and leveraging detailed statistical analysis, EL KENDI can implement effective strategies to mitigate these costs, ultimately improving its financial stability and operational performance.

General conclusion

Costs are the primary determinant of the economic opportunities available to an organization, controlling costs is a fundamental objective that organizations strive to achieve. The fact that hidden costs occupy an important part of the total costs and the ignorance by many organizations has made it difficult to reduce them.

This research has aimed to highlight the impact of unveiling hidden costs on cost reduction, it delved into the often-overlooked aspect of hidden costs that can significantly impact a company's overall expenses. We recognized human behaviour's crucial role in contributing to or mitigating these costs.

In order to develop our subject, we formulated the following research question: **Does the identification and management of hidden costs lead to achieving cost reduction goals?**

To answer this question, we approached it in two chapters. The first chapter is the theoretical part, in which we first discuss the fundamental concepts associated with costs and cost reduction. The main known tools for reducing costs are presented. Secondly, we look at the definition of hidden costs, their origins, and the indicators that can be used to identify the malfunctions that cause them. In the second chapter, we aimed to evaluate hidden costs at El Kendi company and subsequently present analysis results. We first conducted a comprehensive questionnaire to diagnose the root causes of dysfunctions in five critical areas: absenteeism, work accidents, turnover, non-quality, and underproductivity. We also conducted interviews to gain deeper insights into the impact of these dysfunctions and the measures implemented by El Kendi to address them, this approach led to confirm all our previous hypotheses:

Hypothesis1: Hidden costs originate from inefficiencies in operational processes. Their components may include indirect labour costs, overconsumption expenses, administrative overheads, and risk costs.

Our research confirmed that the origin of hidden costs primarily stems from inefficiencies and dysfunctions within operational processes. These dysfunctions can be attributed to various aspects of the company's structure, including physical, technological, organizational, demographic, and mental elements. Additionally, human behaviours, specifically the logic

and practices adopted by employees, they play a significant role in generating these hidden costs. Their components are historical costs that include overconsumption, overtime, and over-salary, which reflect past inefficiencies, and opportunity costs, which represent potential losses from non-production, unrealized potential, and various risks.

Hypotheses 2: The identification of hidden costs will significantly aid in overall cost reduction and enhance profitability by providing a clearer picture of financial inefficiencies.

Our research confirmed that identifying hidden costs significantly contributes to overall cost reduction. This finding underscores the importance of uncovering and addressing hidden costs as a strategy for enhancing financial efficiency. By improving socio-economic performance, refining company structure and behaviour, controlling hidden cost indicators, and developing human resources, organizations can achieve substantial cost savings.

Hypotheses 3: Evaluating the hidden costs associated with each indicator at El Kendi can be achieved through a comprehensive analysis of the company's inefficiencies to provide actionable insights for cost management.

The evaluation of each hidden cost indicator at El Kendi was conducted using the SOF method. This approach allowed for a comprehensive assessment of hidden costs. The social module identified the reasons behind the dysfunctions, the organizational module demonstrated the impact and regularization measures, and the financial module presented the annual financial costs for the years 2021, 2022, and 2023.

In the light of our findings, some proposals could be included as follows:

- The necessity of developing the company's software lies in enhancing its efficiency in calculating more comprehensive statistics about the employees.
- Addressing hidden costs is crucial, as they constitute a significant portion of the company's revenue. By identifying and mitigating these costs, the company can enhance financial efficiency and profitability. Uncovering and addressing inefficiencies like overconsumption, overtime, and non-production can lead to substantial cost savings and increased profits, ultimately improving operational effectiveness and competitiveness.

- Paying attention to employees' needs is essential for achieving better performance and higher productivity. It boosts individual morale, reduces work accidents and absenteeism, and lowers the rate of defective products. These benefits collectively contribute to cost reduction.
- Taking into consideration the socio-economic method is crucial for enhancing the human factor alongside creating potential.
- Investing in the framework of reducing the rate of non-conforming products is essential for ensuring product quality. This may involve enhancing production processes, providing employee training, and improving material sourcing practices. By making strategic investments in these areas, companies can minimize defects, optimize product quality, and ultimately enhance their competitiveness in the market.

During our research study, we encountered various limitations, including:

- The confidentiality of data restricted access, resulting in limited availability of data and affecting the outcomes.
- The internship duration coincided with the fiscal year-end, causing time constraints and limiting research activities.
- The requirement for managerial approval at each step makes the interview process and the distribution of questionnaires difficult.

Our research contributed to the following:

- Introduce new methodologies for identifying and quantifying hidden costs. This includes qualitative approaches such as interviews and case studies.
- Identify specific hidden costs within El Kendi and propose actionable strategies to reduce or eliminate these costs.
- Recommend best practices for continuous monitoring and management of hidden costs.
- Raise awareness among El Kendi's management and stakeholders about the significance of hidden costs and their impact on the company's financial health.
- Recommend implementing a cost management system that integrates with existing financial and operational systems within El Kendi.

Here are some suggestions for future researchers:

- Explore psychological and organizational influences on cost management perceptions and actions.

- Conduct long-term studies to assess the effectiveness of cost-reduction strategies over time.
- Develop and evaluate policies to enhance transparency and accountability in cost management.

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Appendixes

Appendix I

Questionnaire « EL KENDI »

This research is part of a **Master's degree** in “Audit and control management” at the Higher School of Management and Digital Economy. The study will focus on EL KENDI, aiming to understand **the impact of unveiling hidden costs on cost reduction**. To achieve this, we will analyse several key indicators, including Absenteeism, Work Accident, Turnover, Non-quality, Under-productivity.

Rest assured that all information collected will be treated with the utmost **confidentiality**. We kindly ask you to answer each question thoughtfully and honestly. This data will be used exclusively for academic research purposes.

Your participation is highly valued, please accept our highest regards and esteem.

Section1: General information

Sex

- Male
- Female

Age range

- 20 years old - 35 years old
- 36 years old - 50 years old
- Over 51 years old

Number of years' experience in EL KENDI

- 1 year - 5 years
- 6 years - 10 years
- More than 10 years

Section2: Evaluation of hidden costs indicators in El Kendi

1. Absenteeism:

On a scale of 1 to 5, how would you rate your satisfaction with your working environment?

- 1
- 2
- 3
- 4
- 5

What is the main reason for your absenteeism from work?

- Personal reasons (family responsibilities, illness, other obligations, marriage, death, etc.)
- Supervision and leadership style
- Unsatisfactory salary
- Lack of motivation

On a scale of 1 to 5, how would you rate the impact of absenteeism on your team's productivity?

- 1
- 2
- 3
- 4
- 5

2. Work accidents

On a scale of 1 to 5, how satisfied are you with the safety conditions?

- 1
- 2
- 3
- 4
- 5

What are the reasons for workplace accidents?

- Lack of training and inability of employees to keep up with technology and use machines
- Lack of maintenance of equipment and machinery
- Workplace accidents are the result of careless actions on the part of employees
- Inappropriate physical conditions (high temperatures, noise, inadequate lighting, dust, etc.)

3. Turnover

In your opinion, what are the main reasons for staff turnover within the company?

- Supervision and leadership style
- Unsatisfactory pay
- Work pressure and lack of motivation
- Lack of clarity about tasks and responsibilities

How does staff turnover affect the efficiency of your team and the company in general?

- The company incurs significant costs in the process of separating an employee, training a new employee, and recruiting a new one.
- Staff turnover leads to interruptions or slowdowns in production activity
- Employees' lack of experience in their new roles and difficulty in adapting to their new environment
- Reduced product quality

4. Non-quality

On a scale of 1 to 5, how would you rate the quality of the pharmaceutical products manufactured by the company?

- 1
- 2
- 3
- 4
- 5

To what extent do you think that ongoing staff training can help to improve the quality of products manufactured?

- 1
- 2
- 3
- 4
- 5

In your opinion, what is the reason for the existence of defective products?

- Use of old machinery
- Raw materials used do not comply with standards
- Lack of skills
- A large number of orders puts pressure on production

5. Under-productivity

In your opinion, what are the causes of productivity differences between estimated and actual quantities?

- Stoppage of certain machines means that production is halted for a certain period of time, resulting in loss of output, reduced sales opportunities, and loss of profit.
- Lack of harmony, collaboration, and teamwork within the work team
- Staff shortages
- Problems in the planning phase

Unveiling hidden costs in a valuable strategy for companies seeking to lower expenses and enhance financial well-being. This research will shed light on the connection between hidden cost detection and cost reduction efforts.

Appendix II :

Interview Guide: Study the impact of unveiling hidden costs on cost reduction

Introduction

As part of our study on hidden costs and regularization measures at EL KENDI, we seek to understand the impact of indicators such as absence, work accidents, turnover, non-quality, and under-productivity on overall business costs. Building on the SOF methodology developed by Henri Savall, we aim to identify potential malfunctions and best regulation practices to minimize company costs.

Section 1: Impact of Dysfunction Indicators

1. Absenteeism:

- What is the impact of absenteeism on the overall performance of the company?

2. Work Accidents:

- What are the financial and operational impacts of workplace accidents?

3. Turnover:

- What is the impact of turnover on the overall performance of the company?

4. Non-quality:

- What is the impact of non-quality on customer satisfaction and production costs?

5. Under-productivity:

- How does under-productivity affect the company's profitability?

Section 2: regularization measures and procedures

1. Absenteeism:

- What actions are being implemented to reduce absenteeism?

2. Work Accidents:

- What safety measures are in place to prevent workplace accidents?

3. Turnover:

- What actions are being implemented to reduce turnover?

4. Non quality:

- What actions are being implemented to reduce non-quality costs?

5. Under-productivity:

- How does the company identify and correct the sources of underproductivity?

Conclusion

Through these interviews, we will highlight the challenges the company will face and the effective strategies to overcome them. Based on these insights, the company will now be able to consider concrete actions to optimize overall costs and strengthen its competitiveness in the market.

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