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Implémentation d'un système de management de la qualité au sein d'une entreprise. Cas d'étude : SARL L'Exquise

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Dedication

~ I dedicate this to my wonderful parents, who have always been there for me, before, during, and after this work. Your support and love have been my strength ~

~…To my dear little sister, who couldn't be here with us~

You are always in my heart

رحمها الله

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In the name of Allah, the Most Gracious, the Most Merciful. First, I want to express my gratitude to Allah, who granted me strength, knowledge, and countless gifts. I start and finish with 'Alhamdulillah.'

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It wasn't wasted…

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Abstract:

This study focuses on implementing a Quality Management System (QMS) at L'EXQUISE, following the guidelines of ISO 9001:2015. It begins by examining the company's internal and external challenges and understanding the needs and expectations of its interested parties. The study then defines the scope of the quality management system QMS to set the boundaries, and identifies key processes along with their activities, and performance indicators and sees them in detail. The goal is to enhance the company's overall efficiency by ensuring interested party satisfaction and fostering continuous improvement. The findings indicate that Chapter 4 of ISO 9001:2015 has been successfully implemented, with further work required to complete the remaining chapters.

Keywords: ISO 9001:2015, Quality Management System, implementation of QMS, QMS, context of the organization, interested parties, processes, continuous improvement.

الملخص:

تركز هذه الدراسة على تنفيذ نظام إدارة الجودة (QMS) في شركة L'EXQUISE، وفقًا لإرشادات ISO 9001:2015. تبدأ الدراسة بفحص التحديات الداخلية والخارجية للشركة وفهم احتياجات وتوقعات الأطراف المعنية. و تهدف الدراسة إلى تحديد نطاق نظام إدارة الجودة وتحديد حدوده، وتحديد العمليات الرئيسية وأنشطتها ومؤشرات الأداء وتفاصيلها. الهدف هو تحسين الكفاءة العامة للشركة من خلال ضمان رضا الأطراف المعنية وتعزيز التحسين المستمر. تشير النتائج إلى أن الفصل 4 من ISO 9001:2015 قد تم تنفيذه بنجاح، مع الحاجة إلى مزيد من العمل لإكمال الفصول المتبقية.

الكلمات المفتاحية:ISO 9001:2015، نظام إدارة الجودة، تنفيذ نظام إدارة الجودة، سياق المنظمة، الأطراف المعنية، العمليات، التحسين المستمر.

Résumé:

Cette étude se concentre sur la mise en œuvre d'un Système de Management de la Qualité (SMQ) chez L'EXQUISE, en suivant les directives de l'ISO 9001:2015. Elle commence par examiner les défis internes et externes de l'entreprise et comprendre les besoins et attentes des parties intéressées. L'étude définit ensuite le champ d'application du SMQ pour établir les limites, et identifie les processus clés ainsi que leurs activités et indicateurs de performance en détail. L'objectif est d'améliorer l'efficacité globale de l'entreprise en garantissant la satisfaction des parties intéressées et en favorisant l'amélioration continue. Les résultats indiquent que le chapitre 4 de l'ISO 9001:2015 a été mis en œuvre avec succès, nécessitant encore du travail pour compléter les chapitres restants.

Mots-clés : ISO 9001:2015, Système de Management de la Qualité, mise en œuvre du SMQ, contexte de l'organisation, parties intéressées, processus, amélioration continue.

GENERAL INTRODUCTION

The business world is constantly evolving, from markets and resources to how we make and sell products. Constant adaptation is key to success. To stay ahead, companies need to be competitive, always improving and facing new challenges. Many do this by getting certified, proving they meet certain standards.

But quality today isn't just about checking the final product. It's about a whole system that helps companies consistently make things or offer services that meet their customers' needs. This thesis dives into quality management systems (QMS), specifically those based on the ISO 9001:2015 standard. We'll explore what they are, why they're important, and what's involved in setting them up.

My project focuses on applying ISO 9001:2015 at L'EXQUISE. First, we will get to know all the generalities, definitions, and terms needed throughout this work. This chapter provides a foundation by introducing the essential concepts and terminology related to Quality Management Systems (QMS). We will explore the historical context behind the quality and these standards, understanding their evolution and the rationale for their development. Bu understanding these basics we will be better equipped to go through the next.

Second, we will get a clear picture of L'EXQUISE. This chapter delves into the company's history, organizational structure, and departments. It also details the products manufactured by L'EXQUISE and the processes and activities required to deliver these products.

In the final chapter, we will focus on Chapter 4 of ISO 9001:2015 Context of the Organization. We will start with a SWOT analysis to identify internal strengths and weaknesses, as well as external opportunities and threats that influence the QMS. This analysis will highlight the challenges that can impact on our quality management system. Next, we will identify all interested parties, specifying their requirements and assessing the influence degree of each on our QMS. This step is crucial for understanding the various stakeholders and their impact on the company. We will then define the scope of application for the QMS, setting clear boundaries for our quality management system.

Additionally, we will detail the company’s processes. This involves identifying inputs and outputs, and activities for each process. We will establish performance indicators and categorize each process into its respective family. Lastly, we will describe how these processes interact and support each other, ensuring an effective quality management system.

This thesis isn't just about laying out the technical details of a Quality Management System (QMS). It aims to show the real difference using a QMS can make for L'EXQUISE. By following the guidelines of the QMS, L'EXQUISE can track everything they do, from start to finish, and make sure all their processes are the best they can be. This ultimately leads to L'EXQUISE consistently delivering top-quality products and services, achieving excellence and customer satisfaction.

CHAPTER 1: Total Quality Management

1. Introduction:

For businesses, embracing quality management is a strategic move, involving the enhancement of processes to deliver products or services that meet the expectations of their customers. This commitment to improvement is implemented through the establishment of a Quality Management System.

In this first chapter, we will dissect the fundamentals of quality management, covering essential concepts, key management principles, and practical tools for continuous improvement. Our goal is to offer a clear understanding of how organizations can adeptly manage quality, aligning their processes with customer expectations. The chapter will emphasize key principles and practical tools crucial for successful quality management.

2. Generalities and Definitions:

Quality

"Quality is the ability of a set of inherent characteristics of a product, system or process to fulfill requirements of customers and other interested parties." [13]

"Quality is the aptitude of a product or service to satisfy the needs of the user." [1]

"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives." - William A. Foster

Quality Management

- “Quality management is the act of overseeing all activities and tasks needed to maintain a desired level of excellence. This includes the determination of a quality policy, creating and implementing quality planning and assurance, and quality control and quality improvement.” [3]

- “Quality management is using the entire work force to produce a product efficiently, economically, and reliably, that satisfies the customer over the product lifetime.” - Armand V. Feigenbaum

Total Quality

- "Total Quality Management (TQM) is a management approach to long-term success through customer satisfaction. It involves all members of an organization in improving processes, products, services, and the organizational culture" [3]

- "Total Quality Management is a management approach that focuses on delivering products and services with the highest quality to maximize customer satisfaction and meet regulatory standards. Total quality management is an organization-wide effort for continuous improvement. That improvement can be defined as an employee's ability to provide on-demand products and services that are of value to their customers, even as their needs change." [29]

QMS:

- "A Quality Management System (QMS) encompasses the organizational structure, procedures, processes, and resources necessary for the implementation of quality management. It is formally defined as a structured system that documents processes, procedures, and responsibilities to achieve quality policies and objectives. The QMS serves to coordinate and direct an organization's activities, ensuring alignment with customer and regulatory requirements while facilitating continuous improvement in performance." [3]

- "A Quality Management System (QMS) is a set of documents and processes that help an organization bring products to market that are safe and effective, meet regulatory requirements, and consistently meet customer expectations" [30]

Norm

- "A document approved by a recognized organization, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods." [13]

Processes

- "Set of interrelated or interacting activities which transforms inputs into outputs." [13]

- "The transformation of a set of inputs into desired outputs through a series of steps." [16]

Procedure (activity):

- "Specified way to carry out an activity or a process." [13]

- "Without standard work there can be no improvement." - Taiichi Ohno

PDCA Cycle:

- "Iterative four-step problem-solving process typically used in quality control." [3]

- "Continual improvement methodology using the Plan-Do-Check-Act cycle." [17]

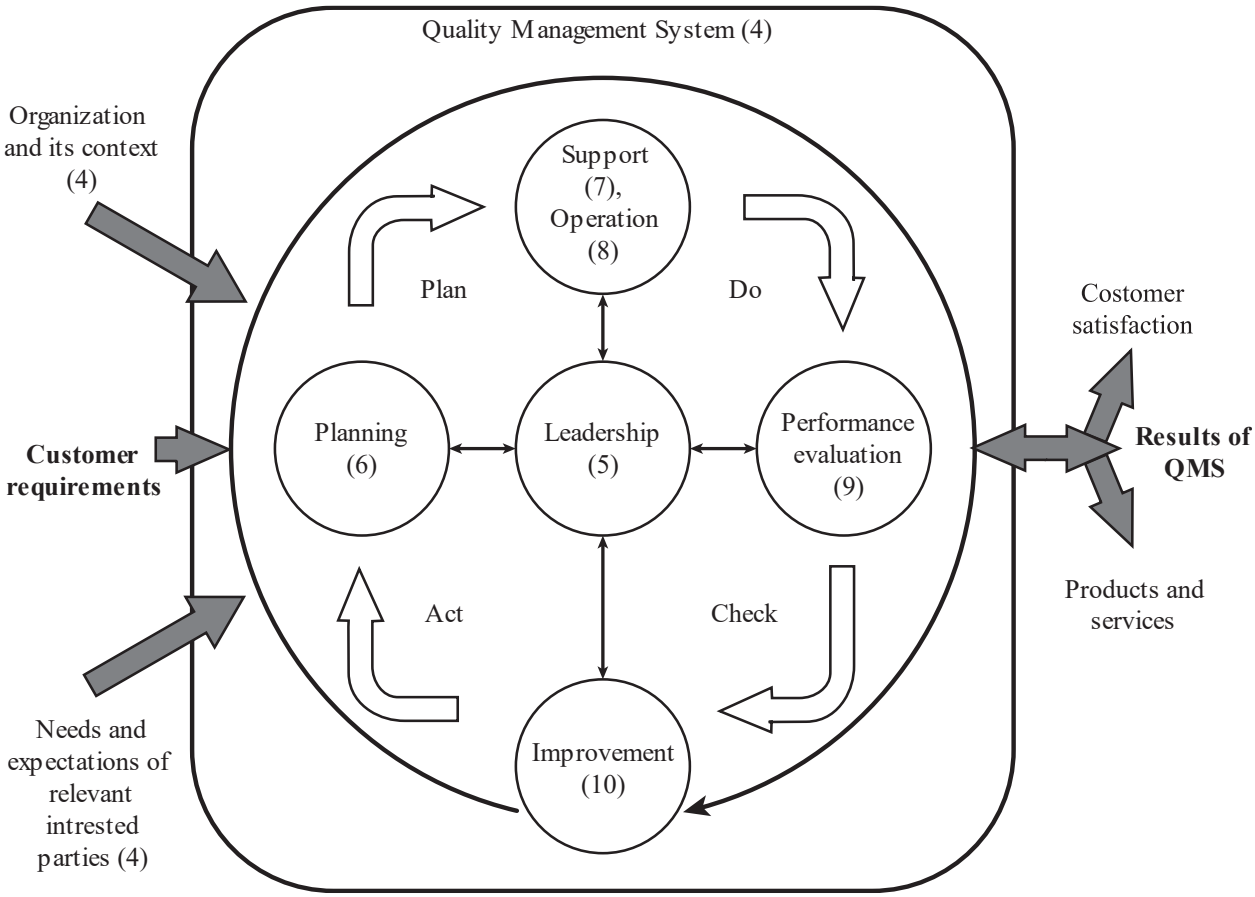

Fig 1. Representation of the structure of this International Standard in the PDCA cycle [13]

Operatories Mode:

- “A set of instructions that describe the steps to be followed in carrying out a specific task or activity.” [3]

- “Operating procedures are essential for ensuring consistency and quality in any operation.” - W. Edwards Deming

Quality Policy:

- “A statement of the overall intentions and direction of an organization with regard to quality, as expressed by the top management.” [13]

- “A quality policy is the foundation for a successful quality management system.”-James R. Evans

Organization:

- “A group of people united by a common purpose, objective, or goal.” Merriam-Webster Dictionary

- “Organizations are the building blocks of society, and their success depends on their ability to manage quality effectively.” - Peter Drucker

Context of the organization:

- “The set of internal and external factors that affect an organization, such as its culture, values, customers, competitors, and the environment.” [13]

- “Understanding the context of the organization is crucial for implementing a successful quality management system.” - John Seddon

Interested Parties:

- “Anyone who can affect or be affected by an organization's decisions or activities." [13]

- “Interested parties include customers, suppliers, regulatory bodies, and other stakeholders who may be affected by the quality of the product or service” [16]

- “Stakeholders can be internal (employees, managers) or external (customers, communities, investors).” [3]

Customer:

- “The recipient of a product or service provided by an organization.” [13]

Provider:

- “The recipient of a product or service provided by an organization.” [13]

Improvement:

- “Activity that enhances the ability to meet requirements.” [13]

- “A dedicated commitment to making things better.” -K. Blanchard

Continual improvement:

- “The ongoing effort to improve products, services, and processes.” [3]

- “Quality improvement is not an event, but a process. It has no stopping point.” -Joseph M. Juran

Management:

- “Coordinated activities of an organization to direct and control its operation.” [13]

- “The process of planning, organizing, directing, and controlling activities to achieve desired results.” [3]

SWOT analysis:

- “A systematic analysis of an organization's internal Strengths, Weaknesses, Opportunities, and Threats.” (Business Dictionary)

- According to NQA[28], Additionally, in a research paper on the implementation of Quality Management System ISO 9001 with SWOT analysis [23], "A SWOT analysis is a strategic planning technique used to evaluate a company's competitive position by identifying and analyzing its internal strengths and weaknesses and external opportunities and threats. It is a framework that helps organizations make informed decisions by considering both the internal factors that support success and the external factors that may impact the viability of a decision"

3. Evolution of the concept of quality:

3.1. Evolution of Quality Management:

From ancient craftsmanship to cutting-edge digital technologies, the pursuit of excellence in quality management has been a constant endeavor throughout human history. Below is a detailed account of the evolution of quality management, highlighting critical milestones and innovations.

Prehistoric Era – Medieval Period:

[1] Early Craftsmanship: Artisans formed guilds to establish quality standards, ensuring uniformity and reliability among their creations. [3]

- **Inspection Marks:** By the Middle Ages, craftsmen's reputations were symbolized by unique marks stamped onto their wares, indicating trustworthiness [3]

Industrial Revolution – Mid-19th Century:

- **Factory System:** The factory system emerged in Great Britain, introducing mass production, and increasing demand for quality control.
- **Statistical Quality Control:** Walter Shewhart pioneered statistical quality control methods in the mid-1920s, laying the groundwork for modern quality management systems. [3]

Early 20th Century – Late 1940s:

- **American Response to Japanese Economic Threat:** Total Quality Management (TQM) originated in the United States as a reaction to Japanese economic dominance, shifting the focus from merely inspecting final products to prevention through early detection. (Hoover, M. L., & Kolb, R. (2012). The history of quality in industry (No. SAND2012-7060). Sandia National Laboratories (SNL), Albuquerque, NM, and Livermore, CA (United States)).
- **ISO 9000 Series:** Launched in 1987, the ISO 9000 series of quality management standards aimed to help organizations worldwide improve their performance. [3]
- **Malcolm Baldrige National Quality Program:** Established by the U.S. Congress in 1987, this program recognizes organizations for their achievements in quality and performance excellence. [3]

Late 1980s – Present Day:

Digital Technologies: Advances in computing technology enabled the automation of quality control processes, leading to increased efficiency and accuracy. [29]

- **Risk Management:** The ISO 9000 series was revised in 2000 to incorporate risk management, reflecting growing awareness of the importance of managing risks in quality management systems. [3]
- **Customer Satisfaction:** In 2000, the ISO 9000 series was further revised to enhance customer satisfaction criteria, underscoring the central role of customer needs in driving quality improvements. [3]
- **Baldrige Criteria Update:** Starting in 1995, the Malcolm Baldrige National Quality Award introduced a business results criterion to assess applicant success. [3]
- **Modern Quality Management Tools:** Innovative methodologies such as Six Sigma, Design for Six Sigma, and Quality Function Deployment continue to shape the landscape of quality management. [3]

As quality management continues to evolve alongside technological advancements, the field remains dynamic and responsive to changing market demands and consumer preferences.

3.2. The evolution of the quality approach:

- The quality approach has evolved alongside the AFNOR NF EN ISO 9001 standard. Initially focused on control (1987), it progressed to quality assurance (1994), known as, and further developed into quality management (2000-2008). The latest shift, as of 2015, emphasizes a more comprehensive approach to performance. These quality management standards have influenced the creation of various other management systems (environment, health and safety, information security, energy, etc.), remaining a foundational point for organizations implementing structured management systems. [7]

On an international scale, the common structure of management system standards holds a significant position. This structure ensures future standards adhere to an identical format with common text, terms, and definitions, promoting consistency and simplifying integrated use. The aim is to facilitate user understanding and maintain coherence among future and revised standards.

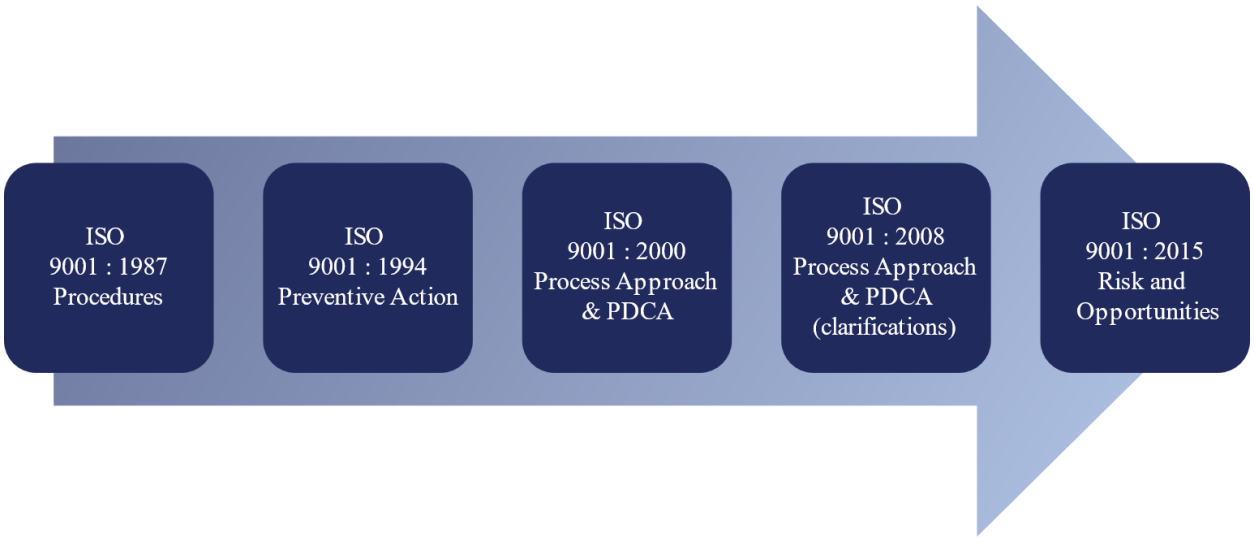

Fig 2. Evolution of ISO9001 [26]

3.3. The four phases of quality evolution:

4. Control (1960s):

Since the 1960s, quality has primarily focused on product conformity, linked to a business activity associated with production, particularly industrial. [7]

5. Participatory management (1980s):

In the 1980s, AFNOR NF EN ISO 9001 standards emerged (1987) within components 9001/9002 and 9003 (depending on the scope) to organize and structure modern relationships between suppliers and clients. Concurrently, it marked the era of participative management with the establishment of "Quality" circles infiltrating organizations. Quality extends beyond the product, transforming into a management tool. [7]

6. Quality assurance (1990s):

In the 1990s, quality took a new direction and spread a new approach: quality assurance. Development is no longer based on a bottom-up approach like in participatory management (collection of improvement ideas) but is based on compliance with defined rules and compliance with the requirements of a standard and/or a reference system. It is also the beginning of the opening to the world of service. [7]

7. Quality management (the process approach):

In the 2000s, quality transitioned from "quality assurance" to quality management, signifying a significant shift observed in the 2000 and 2008 versions of the AFNOR NF EN ISO 9001 standard. This evolution involves adopting a process approach and emphasizing the customer's role, expanding the scope to include various organizational functions such as marketing and research. The quality function gains influence over new supportive or peripheral functions. Simultaneously, the European Commission strengthens its leadership role, enhancing orchestration and animation activities. [7]

	1960s	1980s	1990s	2000s
general orientation	Quality control.	Participatory management.	Quality assurance.	Quality management
keywords	Product. Control.	Implication. Improvement	Formalization. Proof. Traceability.	Process. Client. Measuring.
position of the quality function	"Super" Controller.	Animator, Federator.	Knowing, quality assurance expert	Manager. pilots.
Scope of intervention	Key functions of the production value chain.	All services.	Services taken into account.	Extension of the scope with the integration of management areas: security, environment.

Table 1. The four phases of quality evolution [7]

8. The seven quality management principles:

The quality management systems in the ISO portfolio are built upon seven fundamental principles of quality management.

- Customer focus.
- Leadership.
- Engagement of people.
- Process approach.
- Improvement.

- Evidence-based decision making.
- Relationship management.

- **Customer focus:**

Achieving lasting success involves earning and maintaining trust from both customers and stakeholders. Quality management primarily focuses on meeting customer needs and going beyond their expectations. Each interaction with customers presents a chance to enhance the value provided. Essential to an organization's enduring success is a comprehensive understanding of the present and future needs of clients and other stakeholders. [7]

- **Leadership:**

Leadership is important in quality management because it sets the vibe for a company's culture of doing things well. Good leaders make sure the goals of the company match what the customers want, and they always push for getting better and better. They also build trust and encourage new ideas. Leaders who are effective give a clear purpose and direction, making it possible for everyone to join in and help meet quality goals. This teamwork creates a culture were doing things with quality in mind becomes a natural part of how things are done, leading to success and happy customers. [7]

- **Engagement of people:**

For an organization to provide value, all staff must be competent, empowered, and engaged. Engaged employees at every level improve an organization's effectiveness and efficiency. To manage well, respect and involve staff as individuals. Recognizing, empowering, and developing staff facilitates their contribution to achieving organizational goals. [7]

- **Process approach.**

Efficient and effective results are more likely when activities are seen and managed as connected processes working together smoothly. The quality management system is made up of these interconnected processes. Grasping how this system achieves results, involving all its processes, resources, control, and interactions, enables organizations to enhance their overall performance. [7]

- **Improvement.**

Continuous improvement is key to an organization's success. It's crucial for maintaining current performance levels, adapting to changes in both internal and external conditions, and opening up to new opportunities. [7]

- **Evidence-based decision making.**

Decisions guided by the analysis and evaluation of data and information are more likely to achieve the intended outcomes. Decision-making, often a complex process with uncertainties, incorporates various types and sources of input data, subject to interpretation. Understanding cause-and-effect relationships and potential unintended consequences is crucial. Analyzing facts, evidence, and data promotes greater objectivity and confidence in the decisions made. [7]

- **Relationship management**

Achieving long-term success involves organizations effectively handling relationships with interested parties, including suppliers. Stakeholders hold sway over organizational performance. Sustainable success is more achievable when an organization strategically manages its interactions with stakeholders to maximize their positive impact on performance. Special attention is often given to managing relationships with suppliers and partners within the network. [7]

Fig 3. The 7 quality management principles of ISO 9001:2015

9. Literature Review:

9.1. Introduction

ISO 9001:2015 is the international standard for quality management systems (QMS) that outlines a framework for organizations to implement processes that ensure consistent quality in their products and services. Implementing a QMS based on ISO 9001:2015 offers numerous benefits, including increased customer satisfaction, improved operational efficiency, and a stronger competitive advantage [27]

This literature review delves comprehensively into the implementation of ISO 9001:2015. By analyzing existing research and studies, it aims to provide valuable insights for organizations considering this path. The review explores the key steps involved in the implementation process, highlighting the challenges organizations might face and the best practices to ensure successful adoption. Furthermore, it examines the impact of ISO 9001:2015 implementation on various aspects of an organization, including its performance, culture, and customer focus. By identifying critical factors that contribute to a successful implementation and offering guidance on navigating potential hurdles, this review aims to equip organizations with the knowledge to leverage ISO 9001:2015 effectively in today's dynamic business environment.

Implementation of the QMS:

The study under review [19] investigates the application of ISO 9001:2015 standards within the Failure Support Process of a telecommunications company, employing Action Research methodology. Highlighted benefits include certification attainment and enhanced contract opportunities with government entities. However, several limitations and challenges were encountered. Data scarcity and low response rates from customers hindered comprehensive analysis. Staff resistance and high workload in the Network Operation Centre (NOC) posed challenges to QMS implementation. Despite these challenges, recommendations for future research include exploring the impact of QMS on costs and productivity in the telecommunications sector and assessing the work environment and perceptions of participating companies. This study provides valuable insights into the practical implications and challenges of implementing QMS in the telecommunications industry.

As also in this study [8] the objective was to outline the essential steps for implementing a Quality Management System (QMS) in a large Algerian public bank's banking service, adhering to the ISO 9001:2015 standard. The study employed qualitative methods such as document review, gap analysis, observation, brainstorming, and semi-structured interviews to gather insights. The findings indicate a need for the bank to develop an action plan aimed at ensuring QMS compliance with ISO 9001:2015 requirements. This involves addressing contextual factors, identifying stakeholder needs, defining QMS processes, and establishing a comprehensive quality documentation system. Key to the success of QMS implementation is the active engagement and commitment of the bank's senior management, along with the participation of all employees.

Moving on, the research by [12] investigated the implementation of ISO 9001:2015 as a Quality Management System (QMS) at PT Tarumatex Bandung, revealing significant improvements across departments such as Personnel & General, Production, QA & QC, Marketing & Purchasing, and PPMC. Despite notable benefits including clearer job descriptions, enhanced communication, streamlined documentation processes, and improved quality control, challenges such as low employee awareness and external support issues were encountered, particularly in the Production and Marketing & Purchasing departments. These challenges were addressed through continuous socialization, training, and collaboration with suppliers. Nevertheless, significant benefits were observed, such as improved communication with customers, systematic handling of complaints, and enhanced work methods. Moving forward, sustained efforts are essential to address remaining challenges and uphold the positive outcomes of ISO 9001:2015 implementation, emphasizing continuous training, communication enhancements, and collaboration with external stakeholders to ensure adherence to ISO standards and enhance overall organizational performance.

Another research, conducted in response to a strategic initiative by the local government for continuous improvement, a qualitative study was conducted to assess the implementation of ISO 9001:2015 Quality Management System (QMS) in the planning elements of the Government office at Rutong. Utilizing in-depth interviews and document analysis, the researchers sought to understand the strengths, weaknesses, opportunities, and threats (SWOT) associated with the QMS implementation [24]. Interviews were conducted with key personnel responsible for ISO 9001 implementation, including the Head of Government/Legal Section and a General Staff member. The findings revealed that while the Government Office at Rutong showed significant potential for growth and development, challenges persisted in improving public service quality and sustainability. The implementation of ISO 9001 was identified as a strategic approach to address these challenges. However, the study emphasized the necessity of skilled human resources and the commitment of all employees to successfully implement quality management standards. Despite the inherent difficulties, achieving ISO certification was deemed crucial for accelerating service quality improvement and enhancing public satisfaction. Moreover, it was highlighted that collaboration among stakeholders, including government, private sector, and society, is essential for sustained improvement efforts. The study concluded that while challenges remain, the long-term benefits of ISO 9001 implementation can significantly contribute to the region's growth and development, setting an example for other regions striving to enhance service quality and sustainability.

Another research effort [5]explores the challenges and implementation of a Quality Management System (QMS) and ISO 9001:2015 certification within a healthcare setting, focusing on the Dermatology Department of the HGUA. The study highlights the significance of ISO certification in fostering accountability, good management, and continuous improvement in service quality. Internally, ISO certification signifies the establishment of standardized processes, collective efforts to maintain up-to-date documentation, and a commitment to achieving high-quality work. Externally, certification enhances user confidence and satisfaction by demonstrating

compliance with quality requirements. The implementation process involves several stages, including training professionals on ISO 9001:2015 standards, establishing an internal quality committee, conducting an initial diagnosis through SWOT analysis, documenting processes, piloting indicators, conducting internal and external audits, and annual reviews for certification renewal. While ISO certification is common in private health centers, its attainment by a public health clinic like the dermatology department signifies a commitment to quality care, research, and teaching. However, the implementation process entails significant effort, including the identification of quality-related activities, analysis of departmental strengths and weaknesses, documentation of processes, leading to increased paperwork and the need for technical expertise. Despite these challenges, ISO certification improves patient safety, enhances stakeholder satisfaction, and provides institutional recognition, affirming the department's dedication to quality service provision.

The implementation of ISO 9001:2015 in higher education institutions, particularly in Lebanon, faces significant challenges[14]. ISO 9001, originally designed for quality management across various sectors, has been considered suitable for addressing the needs of educational organizations. However, the adoption of ISO 9001 in Lebanese higher education remains limited, with only a few universities embracing it. The challenges identified in implementing ISO 9001 in Lebanese higher education institutions include lack of awareness, resistance to change, terminology, existence of accreditation, commitment of top management, time management, resource availability, and notably, the absence of ISO 21001 standards tailored specifically for educational organizations. Despite these challenges, findings from a question-based survey conducted among Lebanese private universities revealed important insights. The survey indicated that the commitment of top management emerged as the most critical factor hindering ISO 9001 implementation, followed by the existence of accreditation and time management. Additionally, the survey highlighted the need for awareness-raising initiatives and resource allocation to facilitate ISO 9001 adoption. These findings underscore the importance of addressing the identified challenges and leveraging opportunities to enhance quality management practices in Lebanese higher education institutions.

The study [21] meticulously examines the effectiveness of ISO 9001:2015 implementation at PT Sejahtera, a manufacturing company grappling with challenges such as order withdrawals and customer complaints. Through gap analysis, the research explores various clauses of ISO 9001:2015, revealing implementation effectiveness ranging from 82% to 94%. Notable findings include a lack of management control over the implementation of the quality management system (Clause 4), insufficient focus on maintaining customer satisfaction and a lack of full understanding of the quality policy until the operator level (Clause 5), discrepancies between the implemented quality management system and desired outcomes (Clause 6), undefined worker competence in job specialization and a lack of understanding of quality objectives among workers (Clause 7), and shortcomings in follow-up actions taken by the company in cases of discrepancies (Clause 10). Following the identification of these challenges, improvements were implemented in management control, customer focus, worker competence, and follow-up actions to enhance ISO 9001:2015

implementation. These efforts aimed to ensure continual quality management improvement at PT Sejahtera.

The transition from ISO 9001:2008 to ISO 9001:2015:

In exploring the transition from ISO 9001:2008 to ISO 9001:2015 within industrial companies in the State of São Paulo, Brazil, through qualitative analysis encompassing five case studies, the research [6] unearthed the systematic organization of insights from implementing the six significant advancements of ISO 9001:2015, particularly in comparison to its predecessor. These findings underscore the practical implications for quality managers navigating this transition, suggesting that the identified strategies can serve as benchmarks for organizations seeking ISO 9001:2015 certification or considering updating their QMSs. By leveraging these insights, organizations can streamline their transition processes, optimizing resource allocation while enhancing the efficacy of their projects, processes, products, and services. However, alongside these significant findings, the study also illuminated certain challenges encountered during the transition process. One notable challenge pertains to the identification of quality-related activities and the analysis of departmental strengths and weaknesses. This process often requires substantial effort and resources, leading to increased paperwork and necessitating technical expertise. Despite these challenges, the pursuit of ISO certification remains imperative for industrial companies, as it offers benefits such as improved patient safety, enhanced stakeholder satisfaction, and institutional recognition. Overall, the study highlights both the benefits and challenges associated with transitioning from ISO 9001:2008 to ISO 9001:2015 within industrial contexts. While the findings provide valuable insights for quality managers and organizational leaders, they also underscore the importance of careful planning and resource allocation to navigate the transition effectively.

The study [11] examines ISO 9001-certified organizations' transition to the 2015 edition, revealing that by May 2017, 19% of Portuguese organizations had ISO 9001:2015 certification, with others planning to transition. Notable findings include the benefits of risk-based thinking and stakeholder identification, but challenges include significant effort required for implementation. External motivations primarily drive implementation. Methodologically, the study involved a literature review and empirical analysis, with a balanced representation of sectors, predominantly SMEs. Transition rates increased by 64% in 2017, with 58% of organizations making minor adjustments and 37% undergoing substantial reformulation during the transition. Challenges in implementation align with key themes such as risk-based thinking and organizational context determination, with no significant differences between CEO and Quality Manager perceptions. The study underscores the importance of ISO 9001:2015 transition and highlights the need for future research validation.

This study [23] explores the transition from ISO 9001:2008 to ISO 9001:2015, focusing on the challenges and opportunities encountered by organizations. Through the application of a

Plan-Do-Check-Act (PDCA) approach in four case studies, the research delves into the complexities of aligning Quality Management Systems (QMS) with the updated standard. Findings reveal varying levels of compliance with ISO 9001:2015 requirements, with high conformity observed in certain areas like leadership and operational processes. However, challenges arise in addressing newly introduced requirements, particularly in clauses related to organizational context and planning. Despite these obstacles, the study highlights the development of transition designs, including SWOT analysis, stakeholder analysis, and risk analysis, to help organizations navigate the transition effectively. These designs provide valuable frameworks for organizations to address the multifaceted impacts of transitioning to ISO 9001:2015, balancing the benefits of risk-based thinking and enhanced leadership commitment with the need for adjustments in QMS scope and evaluation processes.

the impact of implementing ISO 9001:2015:

This study [9] is a literature review of many studies that have investigated the impact of ISO 9001 implementation on various business sectors. Rahmat Nurcahyo, Zulfadhillah, and Muhammad Habiburrahman [18] conducted a study in Indonesia, employing multiple linear regression analyses to assess the relationship between ISO 9001:2015 and operational and business performance in manufacturing industries. The findings showed a notable positive impact of ISO 9001:2015 on both operational and business performance.

Similarly, Waqar Ahmed [2] investigated the transition to ISO 9001:2015 and its impact on organizational performance in service industries in Pakistan. Through multiple linear regression analyses, the study found that ISO 9001:2015 had a significant effect on manufacturing and organizational performance.

In another study by Agus Purwanto, Priyono Budi Santoso, and Masduki Asbari in Banten, Indonesia[22], the integration of ISO 9001:2015 and ISO 22000:2018 in packaging industries was evaluated using Structural Equation Modelling (SEM) and Linear Structural Modelling (LISREL). The results demonstrated a significant positive effect on performance quality, including increased customer satisfaction, reduced complaints, defects, product returns, and cost refunds.

Furthermore, Armawati, Rodia Syamwil, and Totok Sumaryanto [4] explored the implementation of ISO 9001:2015 integrated with accreditation standards in SMK 1 Sragi using the CIPP evaluation model. Their study revealed a positive impact of ISO 9001:2015 implementation on accreditation standards.

In another study conducted by Jannah et al. [15] in Indonesia, the effects of implementing ISO 9001, ISO 45001, and ISO 14000 on the financial performance of manufacturing industries were investigated. This systematic review assessed the impact of these ISO standards on various financial metrics, providing insights into their role in enhancing financial outcomes within the manufacturing sector.

These studies collectively demonstrate the wide-ranging positive impacts of ISO 9001 implementation across different business sectors, including improvements in operational performance, manufacturing processes, organizational performance, customer satisfaction, product quality, financial performance, and supplier management.

This study [20] examines the implementation of Quality Management Systems (QMS) in Small and Medium-sized Enterprises (SMEs) in South-Eastern Poland, focusing on the causes and benefits of implementation. The research employs targeted surveys and expert interviews to gather insights. Findings indicate diverse motivations for implementing QMS, including productivity improvement, competitive positioning, client requirements, quality enhancement, and marketing objectives. Anticipated internal benefits encompass management improvements, cost reduction, information flow enhancement, and quality enhancement, while expected external benefits include customer trust building, sales increase, and market positioning improvement. Additionally, observed effects of QMS implementation include organizational problem reduction, deficiency elimination, and improved customer relations. The study emphasizes the importance of effective QMS implementation for organizational success and competitiveness. Overall, the research provides valuable insights for SMEs planning QMS implementation, guiding them towards effective quality management practices aligned with international standards like ISO 9001:2015.

Another study [10] explores Italian companies' perspectives on ISO 9001:2015 implementation, focusing on motivations, benefits, and challenges. Through a questionnaire distributed to 493 ISO 9001 certified firms, the research highlights a prevalent quality culture, especially in economically advanced northern regions. Most companies perceive improvements introduced in ISO 9001:2015 favorably, including greater emphasis on risk management, ease of integration with other standards, and enhanced continuous improvement initiatives. Motivations for certification include improving organizational image and achieving internal improvements. Benefits post-certification include enhanced corporate image, increased awareness of opportunities, and reduced non-conformities. However, concerns about increased bureaucracy and costs were noted, particularly among Small and Micro businesses. The study suggests broader European comparisons for a comprehensive understanding of market-specific dynamics.

5.2.Summary:

This literature review has comprehensively examined the implementation of ISO 9001:2015, a leading standard for quality management systems. It unpacked the key steps involved in the process, highlighting the challenges of transitioning from ISO 9001:2008 and best practices to ensure successful adoption. The review further explored the impact of ISO 9001:2015 implementation on various aspects of an organization, including its performance, culture, and customer focus.

In closing, implementing a QMS based on ISO 9001:2015 offers a framework for organizations to achieve consistent quality and significant improvements across all aspects of their operations, as evidenced by research findings. However, successful implementation requires careful planning, addressing challenges, and adopting best practices. This review has provided valuable insights for organizations considering ISO 9001:2015, equipping them with the knowledge to navigate the process effectively. Finally, the review has highlighted the ongoing relevance of ISO 9001:2015 in today's dynamic business environment, where a focus on continuous improvement and quality remains a key differentiator for organizational success.

6. Conclusion:

This chapter has established a comprehensive foundation for understanding quality management and its practical application. We began by exploring the concept of ISO 9001, the leading international standard for quality management systems. We delved into the core principles and definitions associated with quality, providing a strong theoretical framework.

Furthermore, the chapter explored the evolution of quality management practices, highlighting the continuous striving for improvement that characterizes successful organizations. Finally, a detailed literature review examined the implementation of ISO 9001:2015, analyzing key steps, challenges, best practices, and the significant impact it can have on organizations across various aspects.

In the following chapter, our focus will turn towards providing a comprehensive overview of the enterprise, with the goal of gaining a deeper understanding of its structure, daily operations, and objectives.

CHAPTER 2: Presentation of the company L'EXQUISE

1. Introduction:

The Algerian soda industry is a competitive marketplace, and L'EXQUISE has secured itself as a major player within it. This chapter provides a comprehensive overview of L'EXQUISE's operations, focusing on key aspects such as production processes, and the product variety that has contributed to their success. We will take a closer look at the company's production units, examining the infrastructure and processes that bring their beverages to market. Additionally, we will explore the range of products offered by L'EXQUISE, providing insights into their market reach and strategy for developing a wider range of products. This detailed examination of L'EXQUISE's operations will serve as a foundation for understanding the company's approach to quality management in the following chapters.

2. Presentation of the company:

2.1. History:

Les Fils Djilali Rahmoun, SARL, also known as L'Exquise, is an Algerian company that was established in 1928 by Mr. Larbi Rahmoun and Mr. Khedim Djilali and in March of the same year the first Algerian beverage factory was established.

The company initially produced beverages and liqueurs based on local fruits. Thanks to this first success Mr. Larbi Rahmoun developed a system called “La cloche” which allows him from carbide to manufacture CO2 gas. Thus began the manufacture of soft drinks called, already at this time, «L’Exquise».

Despite challenges in a dictatorial colonial market, L'Exquise continued to grow, expanding its product range to include flavored mineral water. After independence, the company faced difficulties due to government monopolization, leading to changes in leadership and the creation of a new entity, "Djilali Rahmoun et ses fils," which is the current incarnation of the company.

In 1956 L’Exquise acquired its first automatic machine that will allow a production of 8000 bottles/ hour.

After gaining independence, L'Exquise expanded its offerings by introducing natural, orange-based fruity water. However, government control during this period impeded its development, leading to the company abandoning its packaging under unfavorable conditions. Following a challenging period that witnessed the departure of Abdelkrim and Mustapha, Djilali purchased their shares, establishing Djilali Rahmoun and Son. Djilali entrusted management to his sons Otmane, appointed Réda for preparation, and assigned Amine to handle the commercial service.

Under the leadership of the sons of Djilali Rahmoun, the company experienced renewed growth and introduced innovations such as new packaging and technological improvements. Today, L'Exquise remains a significant player in the Algerian food and beverage industry, continuing to expand its reach while upholding traditional values and quality with "Stay true to our traditions" as their one and only motto.

L'Exquise remains committed to an ongoing journey of exploration, ceaselessly seeking avenues for improvement, and identifying opportunities. With a relentless pursuit of excellence, it strives to evolve continuously, aspiring to become the finest version of itself. Throughout this journey, L'Exquise always endeavors to deliver the highest quality for its customers.

2.2. Technical Data Sheet of the Company:

Company Name & Legal Status	Exquisite Company of the Sons of Djilali RAHMOUN, SARL
Date of Establishment	1928
Headquarters Address	Zone Industrial, Chetoûane- Tlemcen 13000.
Telephone/Fax	+213 (0)43 27 65 21/22/23/24 / 043 27 48 85
Email	sarlexquise@yahoo.fr
General Director	Mr. Otmane RAHMOUN
Number of Employees in 2024	155 individuals
Activity	Production of carbonated and non-carbonated beverages, (syrup)

Table 2. Technical Data Sheet of the Company

2.3. Company Structure:

To ensure smooth operations and optimal decision-making, a company typically divides itself into specialized departments. These departments work together seamlessly, especially those with

frequent interactions. L'Exquise, like many large organizations, relies on a network of departments to function effectively. Here's an overview of the key departments L'Exquise interacts with:

2.3.1. Procurement Department:

L'Exquise's Procurement Department secures the ingredients and materials needed for production, from sugar and packaging to flavorings. They find reliable suppliers and keep costs under control by analyzing market prices and adjusting sourcing strategies. Working with other departments, they ensure efficient and cost-effective purchases.

2.3.2. Production Department:

The Production Department acts as the engine that drives L'Exquise's manufacturing excellence. This department plays a critical role in achieving customer satisfaction by overseeing all stages of production, from raw material processing to finished product packaging. Their commitment to quality guarantees the consistent excellence of L'Exquise's beverages.

2.3.3. Sales and Marketing Department:

The Sales and Marketing Department serves as L'Exquise's strategic customer interface. Focused on achieving both market development and revenue generation. Through research and analysis, they identify new opportunities to sell L'Exquise's products. They also set competitive prices and create attractive sales offers to maximize revenue and solidify L'Exquise's market position. In essence, they generate sales, efficiently receiving, processing, and fulfilling customer orders to ensure timely delivery and satisfaction.

2.3.3.1. Distribution Service:

L'Exquise's Distribution team ensures a smooth flow of products to the clients, they manage finished product stock, they also handle returned bottles and cages from the client making sure they are not damaged, finally they fulfill the client's order after getting a confirmation from the Sales Department and help them load the desired amount of products

2.3.4. Accounting and Finance Department:

L'Exquise's financial team is like the company's compass. They chart the long-term course with a smart business plan, manage the annual budget, and map out how L'Exquise will keep growing. They also keep a watchful eye on everything money-related, from employee paychecks to bills and how much it costs to make each drink. They double-check salaries, gather financial info from everyone, and even manage investments. Basically, they serve as L'Exquise's financial stewards, ensuring the company's long-term financial health and stability.

2.3.5. Human Resources Department:

L'Exquise's Human Resources Department handles the entire employee lifecycle, from attracting and recruiting skilled talent to support their development and ensuring their satisfaction. This includes managing salaries, benefits, and legal compliance to create a positive and productive work environment.

2.3.6. Quality Department:

L'Exquise's Quality Department has the responsibility to make sure everything complies with the highest safety and quality standards; from the raw materials they use to the final product. They constantly test ingredients and finished products every half an hour (T°, pressure, pH, CO2, Brix).

2.3.7. Technical Department:

L'Exquise's Technical Department keeps production running smoothly. They ensure top quality by monitoring lines, with a team dedicated to both corrective and preventive maintenance to prevent issues and fix them quickly. Now, they're leading the development of a new production line, further expanding L'Exquise's production capabilities.

2.4.Products:

Main Products:

L'Exquise focuses on two main products.

- Sodas
- Syrups

Forms Available:

Both sodas and syrup are available in two different forms:

- Plastic (PET)
- Glass

Product Details:

1. **Sodas:**
    - Available in Plastic (PET) bottles and Glass bottles.
    - Flavors: There are 9 flavors.
    - Pineapple, Strawberry, Bitter, Blackcurrant, Orange, Lemon, Natural, Red Apple, Green Apple

- Plastic forms come in 3 different sizes: **33cl - 1L - 2L**

33cl 1L 2L

Fig 4. Variation in PET Soda Bottle Sizes

- Glass forms come in 2 different sizes: **25cl** and **100cl (1L).**

25 cl 1L

Fig 5. Variation in RB Soda Bottle Sizes and Forms

2. Syrup:

- Available in Plastic (PET) bottles and Glass bottles.
- Flavors: There are 11 flavors.
  Anise, Lemon, Blackcurrant, Strawberry, Grenadine, Mint, Orange, Peach, Green Apple, Cherry, Raspberry.
- Glass form volume is **79cl** and Plastic form volume is **0.9L**

79 cl 0.9L

Fig 6. Variation in RB Syrup Bottle Sizes and Forms

2.5.The organization chart:

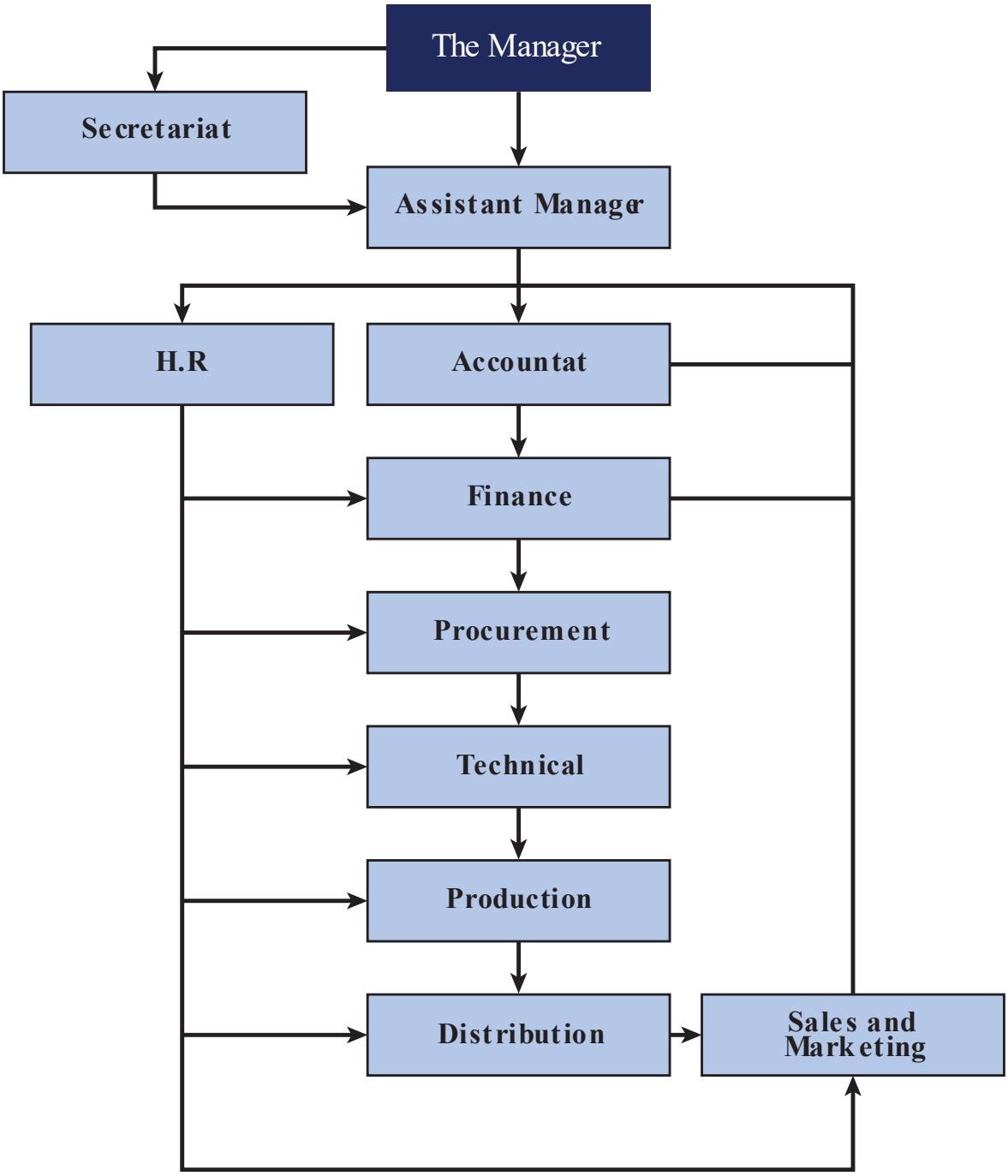

Fig 7. The Organization charts

2.6.Production process:

L'Exquise consistently strives to produce the finest products in the market, and they are succeeding. All thanks to their well refined process, we're about to explore their processes in more detail.

But first, let's explore the ingredients. High-quality sugar, water, and carefully chosen aromas contribute diverse flavors, citric acid enhances the overall flavor balance, colorants, carbon dioxide (CO2) for the fizziness. and bottles (preforms for PET and glass for RB) with caps and the label tickets comes last.

33 cl 1 L 2 L

Fig 8. Variation in PET Bottles Preforms

25 cl 1L

Fig 9. Variation in RB Empty Soda Bottle Sizes

Fig 10. Tickets for RB Soda Bottles

We'll start by looking at a diagram that gives a broad picture of the journey from raw materials to finished products. After that, we'll dig into the specifics of each step, breaking down the process into simpler terms to better understand their operations.

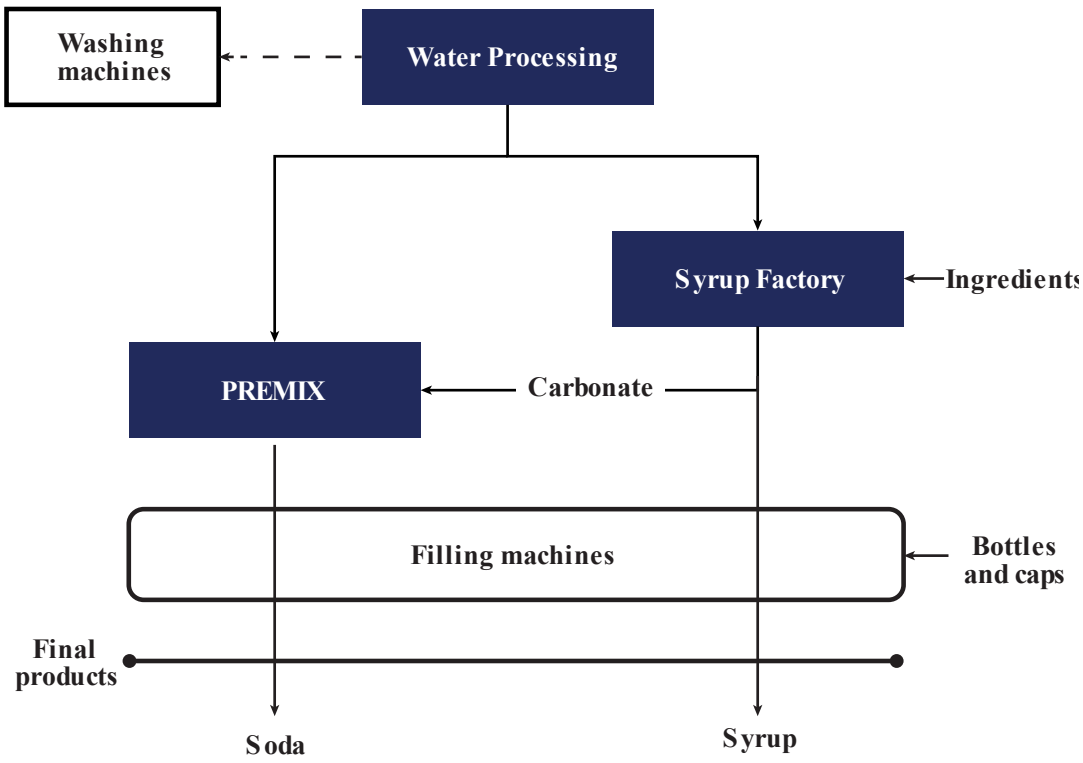

Fig 11. The production overview diagram

2.6.1. Water treatment process:

The key factor in their success is the high-quality water they use. Unlike other ingredients, L'Exquise has L'Exquise has its own exclusive water source, ensuring a distinct advantage in quality control.

L'Exquise goes above and beyond to ensure the water meets top-quality standards through a careful process before including it in their products. This commitment to quality, spanning from sourcing to processing, highlights L'Exquise's dedication to delivering the finest beverages to customers.

1. **Drilling:** They begin by drilling 240 meters into the ground, using specialized equipment. Once the drilling is complete, a submersible pump is installed to efficiently draw water from the well.

2. **Mechanical filter:** They use a centrifugal mechanical filter to purify the water. This filter utilizes centrifugal force to effectively separate impurities from the water, ensuring a high level of cleanliness.

3. **Sand filter:** The next step involves a sand filter, which consists of three layers:

- Layer 1: 250 microns
- Layer 2: 250-100 microns
- Layer 3: 50 microns

This filter initiates a filtration process followed by regeneration every 48 hours. The regeneration process utilizes brine (saltwater), and it is manually adjusted based on the pH level, as determined by laboratory results.

4. **Water tank storage:** consists of 3 tanks, each with a capacity of $80m^3$:

Rinse Water Tank:

- Used for washing and cleaning bottles.
- Water flows from the rinse water tank to the water softener. This crucial device efficiently removes minerals like calcium and magnesium, preventing scale buildup in pipes and appliances.
- The water then gets stored in a plastic tank with a capacity of 3000 liters.
- and finally, the water flows to the boiler (hot water + steam).

Two Process Water Tanks:

- The water undergoes chlorination and then passes through a charcoal filter.
- The charcoal filter plays a crucial role in eliminating chlorination and adsorbing chlorine to remove unpleasant odors.
- Following filtration, the water is directly routed to the syrup production area.
- Raw water passes through the cooler. Straight to the Premix where the Soda is made.

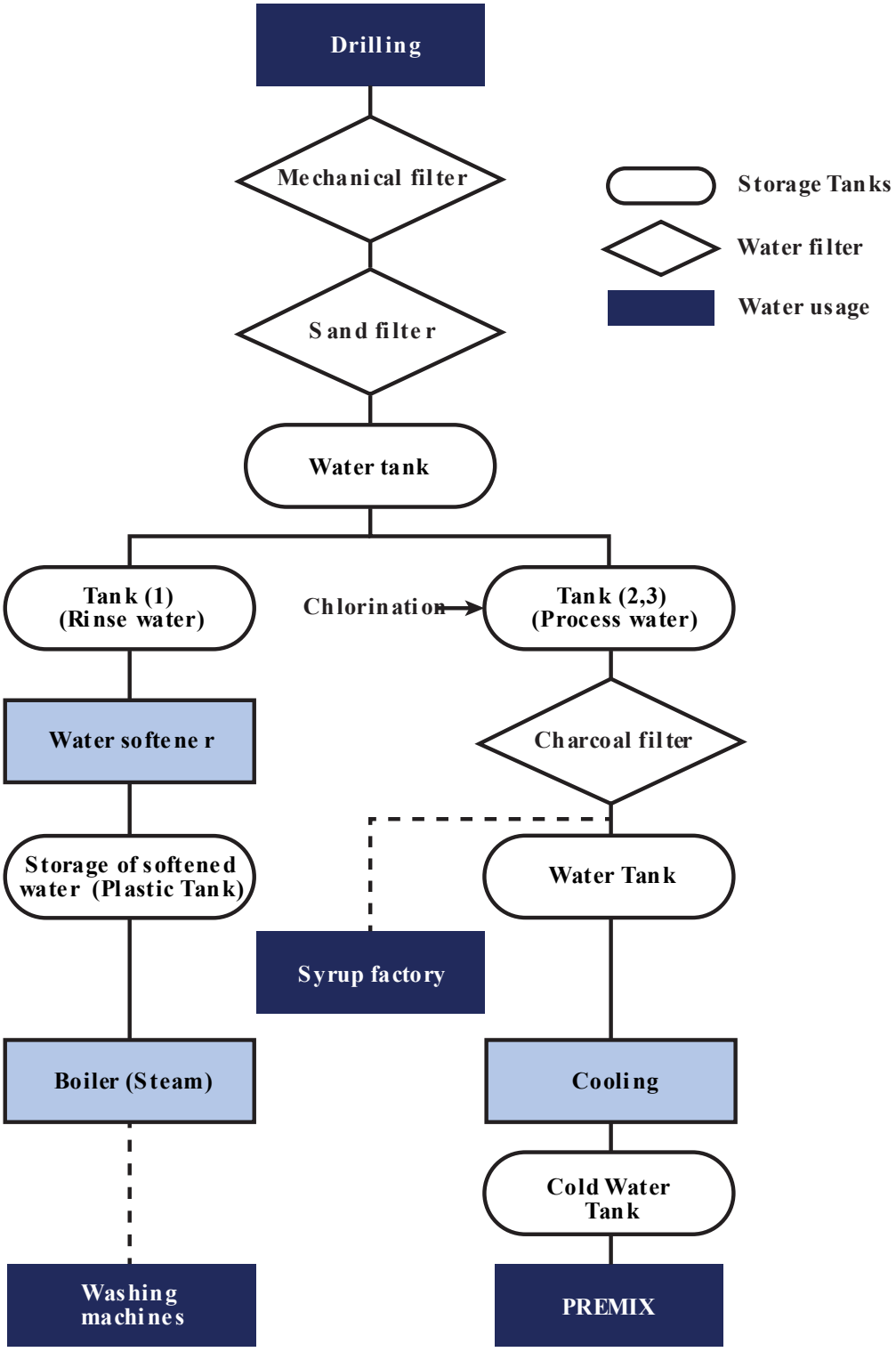

Fig 12. Water process diagram

2.6.2. Syrup Factory

The syrup production facility is a strategic production unit. The production activity involves a system equipped with necessary materials for the syrup manufacturing process.

Manufacturing process:

- The melting tank is filled with water to the desired volume.
- Crystallized sugar is poured into the hopper machine by the operator.
- The transfer, facilitated by a screw conveyor, takes the sugar to the melting tank where it undergoes solubilization with water through 20 minutes of agitation.
- A preservative (sodium benzoate) is added to the tank using a ladder.
- The raw syrup passes through a coarse pre-filter for initial filtration.
- It then goes through an 80-micron filter for finer filtration.
- Pasteurization at 68°C.
- The filtered syrup is distributed into flavoring tanks.
- The addition of [acid + flavor + colorant] is made into the tanks following the adopted formula using a ladder.

Quality Control:

- Q.C.a: Water for the process [physio-chemical and microbiological control].
- Q.C.b: Raw syrup [Appearance, Brix, viscosity, Temperature, pH].
- Q.C.c: Filtered pasteurized syrup [Appearance, Brix, Viscosity, Temperature, pH, bacteriological control].
- Q.C.d: Flavored syrup [Reconstitution, color, organoleptic characteristics, pH].

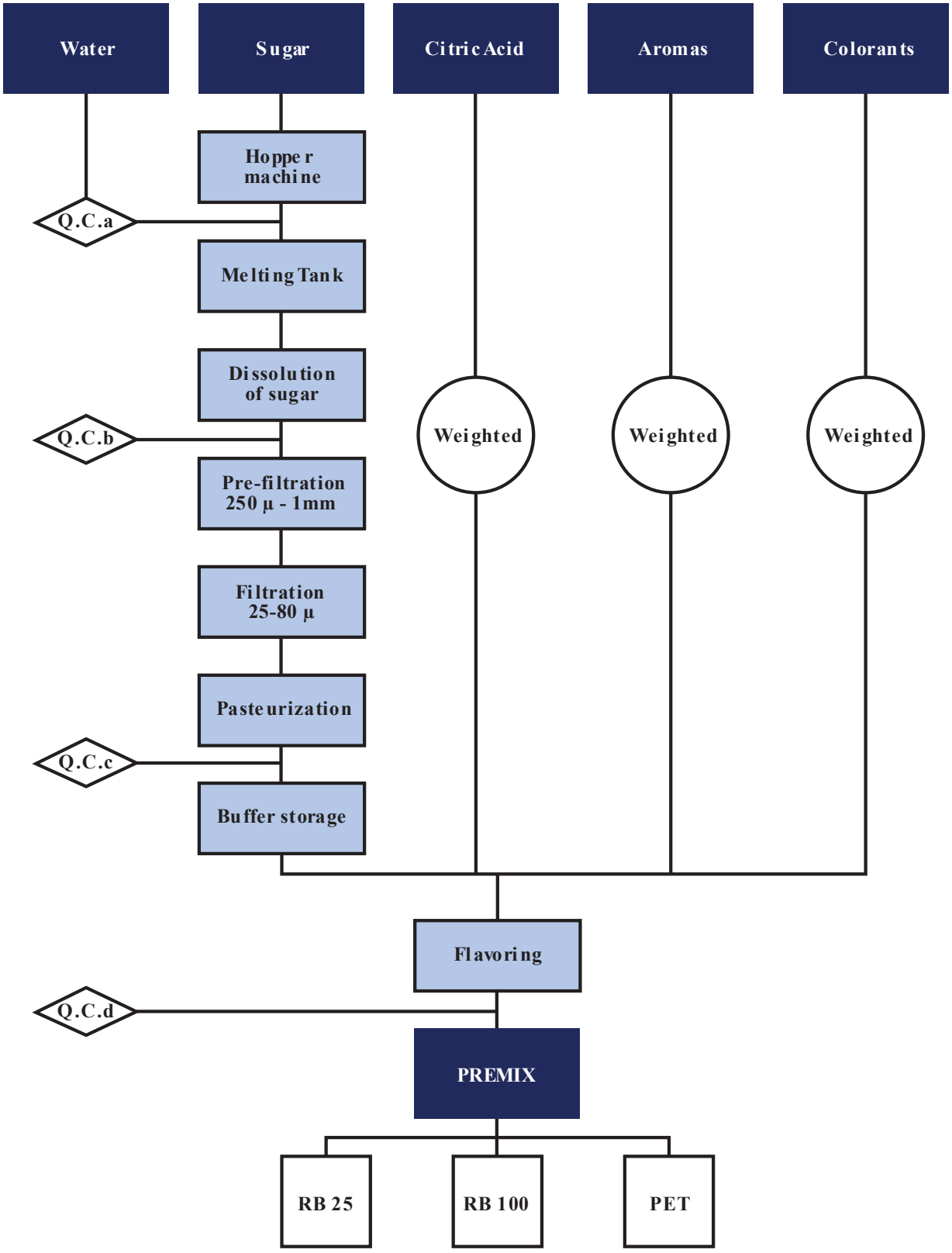

Fig 13. Syrup manufacture diagram

2.6.3. Soda manufacturing

Approaching the final stage of our production process, they focus on the creation of the main product – soda. Following the preparation of the syrup, the last step involves blending it with carbonated water in the PREMIX. This union completes the soda formulation, marking the product's readiness for bottling and consumption.

Manufacturing process:

• After the syrup is ready to be used, it gets mixed with the carbonated water in the PREMIX.

• Due to having two types of bottles, PET, and RB, they prepare the bottles in two different ways:

PET

- The PET bottles come in preforms, and because there are three different sizes, they use three different preforms.
- The preform undergoes a heating process and is then blown into its final form by a blow modeling machine, completing the transformation into the plastic bottle.
- The bottles are arranged in a straight line on the conveyor belt, making their way towards the washing machine.
- The bottle washing process starts by carefully rinsing the bottles with water to ensure they are clean and ready for soda filling.

RB

- The RB or glass bottles arrive ready from the supplier, and it is the staff's responsibility to receive, inspect, and transfer them to the production facility.
- The bottles are then lined up on the conveyor belt, prepared to go through the washing process.
- The bottles are washed and are now prepared to be filled with soda.

• Once the bottles are prepared, they enter the filling machine to be filled and then sealed with caps.

• The final steps involve labeling the bottles with manufacturing and expiration dates, attaching label tickets, and then packing them into plastic containers for the PET, and for the RB the staff manually put them in plastic cages ready for storage and shipment to customers.

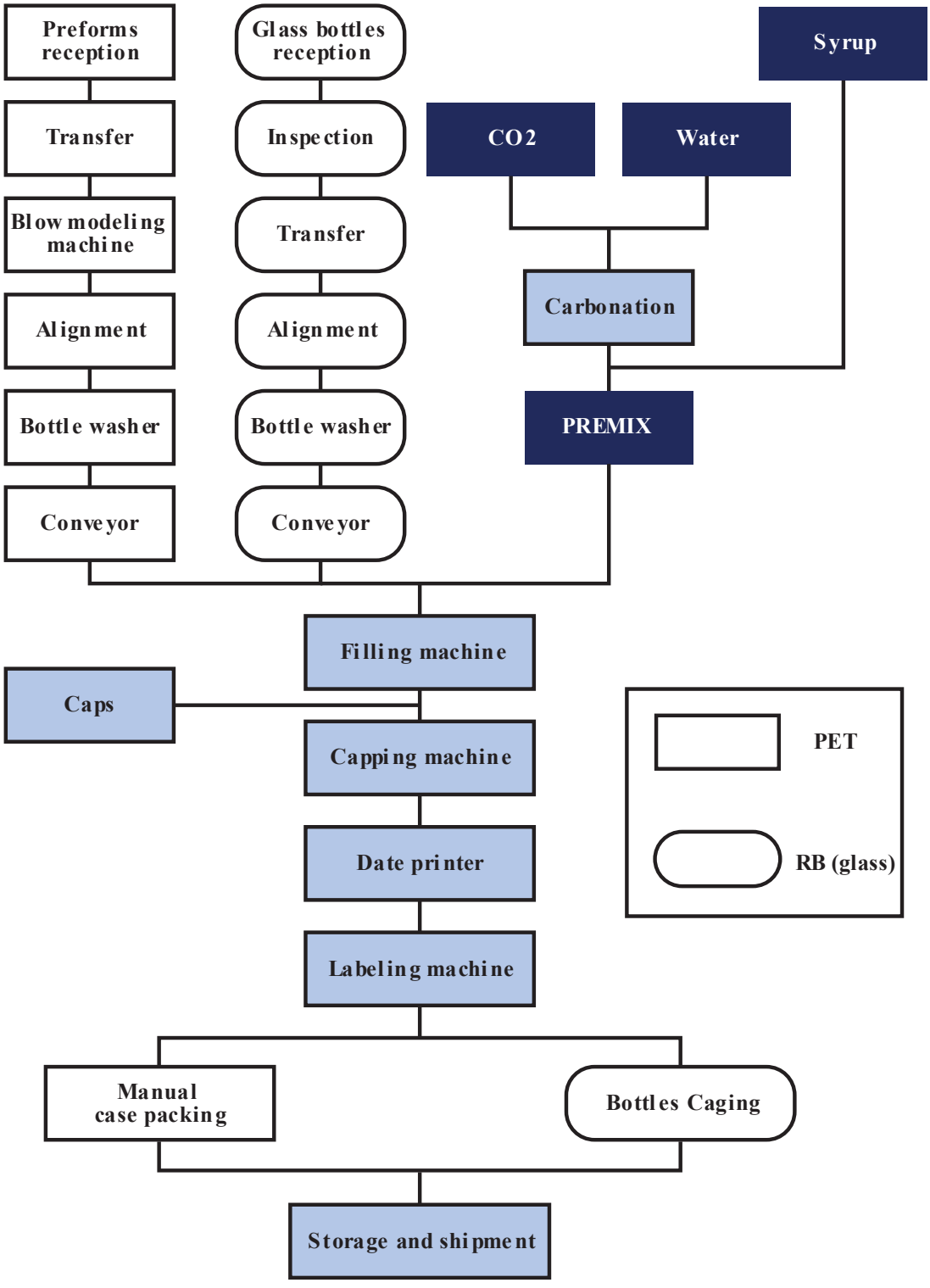

Fig 14. Soda manufacture diagram

3. Conclusion:

Our exploration to L'EXQUISE was very informative. We learned a lot about how they make their products, and the different beverages they sell. By taking a close look at their production factory, we got a clear picture of how they consistently ensure the high quality of their beverages. We also explored the different products that L'EXQUISE makes.

This in-depth look at L'EXQUISE's operations has set the stage for the next steps. Now that we understand their business better, we can focus on the specific challenges and opportunities they'll face when they put a quality management system based on ISO 9001 in place. By comparing what L'EXQUISE already does to the ISO 9001 requirements, we can create a custom plan to help them continuously improve and stay ahead of the competition in Algeria.

The next chapter will discuss how to implement ISO 9001 at L'EXQUISE. We'll start by carefully examining their current practices to see how well they align with the ISO 9001 standards. This is a critical step because it will help us develop a practical plan to address any gaps and ensure a smooth transition to a quality management system that meets ISO 9001 requirements.

CHAPTER 3:
Context of the organization

1. Introduction:

In this section, we will explore the context of L'Exquise, guided by the principles of ISO 9001:2015, focusing on Chapter 4. Defining this context is crucial as it lays the foundation for an effective quality management system that meets regulatory standards.

Our analysis will begin by examining L'Exquise's internal and external environment. We will perform a SWOT analysis to identify our Strengths, Weaknesses, Opportunities, and Threats that influence the QMS. This assessment will highlight both internal challenges and external factors impacting our quality efforts.

Next, we will identify our stakeholders, a key step in our analysis. This involves recognizing important stakeholders, assessing their potential impact on our company, and specifying their unique requirements.

Following this, we will define the scope of our company. This step outlines the boundaries of our QMS. Finally, we will identify and describe the specific processes included in our analysis.

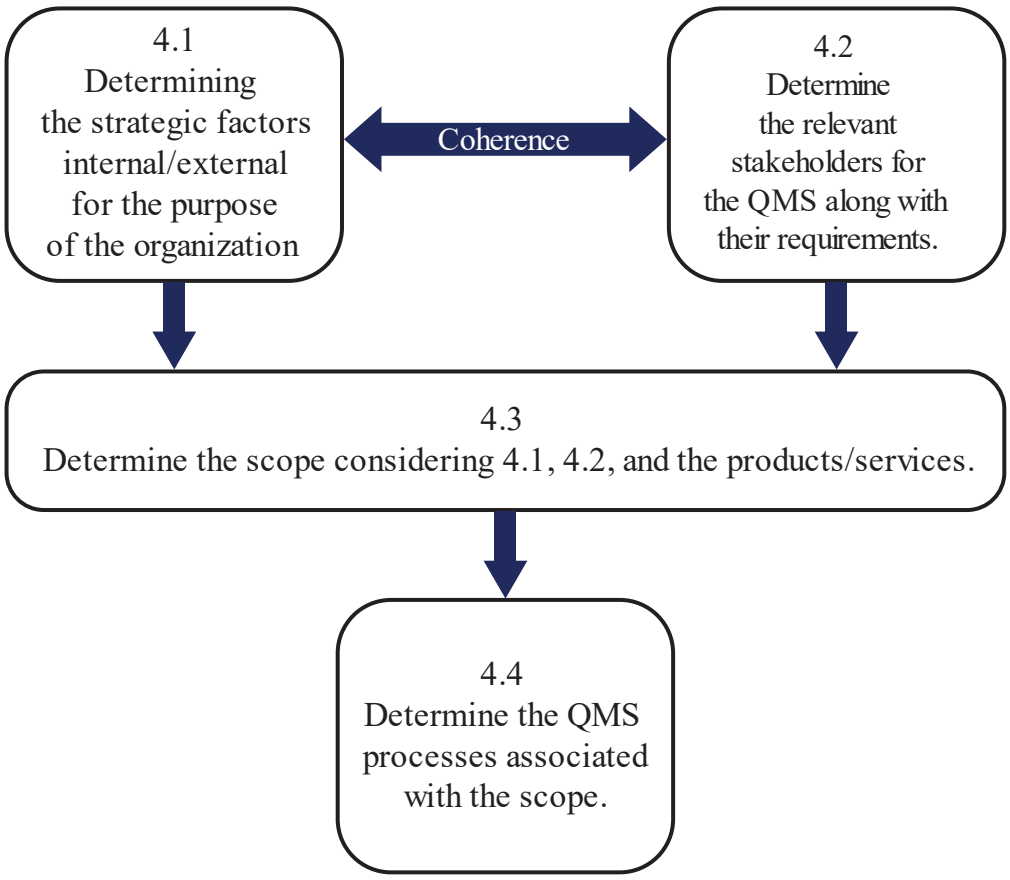

Fig 15. Chapter 4 Structure [7]

2. SWOT analysis:

Under the guidelines of ISO 9001, our approach involves using the SWOT analysis, an effective tool for identifying and evaluating both internal and external factors that may impact L'Exquise in detail.

By delving into internal strengths and weaknesses, alongside external opportunities and threats, this strategic evaluation enables us to thoroughly understand L'Exquise's current business scenario. It aids in discerning the company's competitive position, foreseeing potential risks, and seizing emerging opportunities.

To comprehensively assess L'Exquise's current standing, we've outlined the following examination:

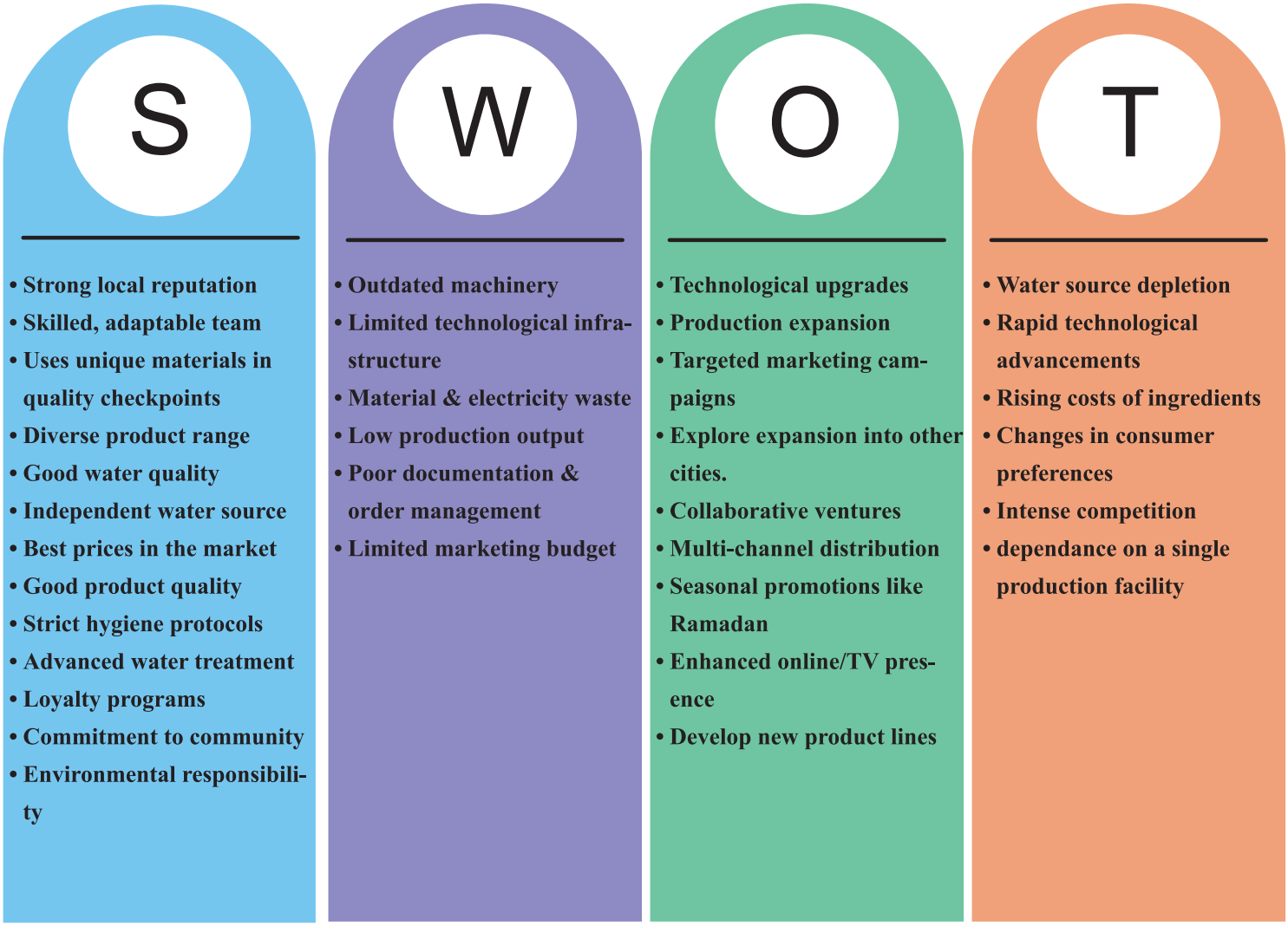

Fig 16. SWOT analysis

2.1.Internal challenges:

Through the SWOT analysis, we have discerned the internal challenges within the company by evaluating its strengths and weaknesses:

- Maintain a stellar local reputation by ensuring consistent quality and service.
- Empower the skilled and adaptable team to adopt new technologies for efficient operations.
- Invest in advanced water treatment to safeguard good water quality from independent sources for the future.

- Increase production capacity to capitalize on best prices and good product quality, potentially meeting higher demand.
- Integrate strict hygiene protocols and advanced treatment with new technologies for optimal efficiency.
- Optimize loyalty programs and community commitment to generate increased sales.
- Promote environmental responsibility by reducing waste and implementing sustainable practices to attract environmentally conscious customers.
- Modernize outdated machinery and infrastructure to improve production output, reduce waste, and enhance overall efficiency.
- Minimize the waste of raw materials by implementing efficient inventory management systems and adopting energy-efficient practices.
- Enhance documentation in accordance with ISO 9001: Clause 7.5 for improved operations and reduced errors in order management.
- Boost production capacity while maintaining quality to meet potential demand.
- Market creatively with a limited budget by exploring cost-effective strategies like social media or community partnerships to reach new customers.

2.2.External challenges:

By evaluating its opportunities and threats through the SWOT analysis, we have identified the external challenges facing the company:

- Invest in R&D for technological leadership.
- Expand production capacity strategically.
- Develop data-driven targeted marketing campaigns.
- Investigate potential expansion into other cities
- Pursue strategic partnerships for expansion and resources.
- Sell across multiple channels and areas.
- Design targeted marketing campaigns with promotions for seasonal events (like Ramadan).
- Increase brand awareness through online and TV presence.
- Develop new product lines based on market research.
- Implement sustainable water management practices.
- Continuously adapt to stay ahead of technological advancements.
- Secure better deals with suppliers and optimize resource use to control ingredient costs.
- Adapt products based on the changes of the customer preferences.
- Differentiate your brand to compete effectively.
- Diversify your production base to reduce single-facility risk.

3. Interested parties:

As a first step, we identified all relevant interested parties. These are anyone who can affect or be affected by the company's decisions or activities[13][13]. This includes those who influence the company's choices, and those who perceive themselves to be impacted by the company's decisions. Through interviews with key personnel, we assessed the influence of each interested party and determined their specific requirements and expectations.

In the following table, we detail these interested parties to understand their potential influence on our quality management system

Interested parties	Least Influential (1)	Moderately Influential (2)	Most Influential (3)
Clients	Individual consumers with occasional purchases or minimal impact contracts. Their satisfaction may not significantly affect overall business goals.	Wholesalers or retailers with regular bulk orders. Their satisfaction contributes moderately to brand reputation and revenue.	Major retail chains or beverage distributors whose satisfaction significantly influences market share and profitability.
Employees	Entry-level or temporary workers with limited responsibilities. Their performance has minimal impact on product quality or business processes	Skilled operators and technicians responsible for critical processes. Their competency ensures consistent product quality and operational efficiency.	Quality assurance and management staff overseeing compliance with the global standards and continuous improvement initiatives.
Suppliers	Small-scale or occasional suppliers of non-critical materials or services. Their performance has minimal impact on production or product quality.	Regular suppliers of key ingredients or packaging materials. Their reliability and quality directly influence product consistency and customer satisfaction.	Strategic partners providing unique or proprietary ingredients essential for product differentiation and quality.
Competitors	Local competitors with limited market presence or differentiation. Their actions have minimal impact on market conditions.	Regional competitors with comparable product offerings and market share. Their strategies may affect pricing or promotional activities within the region.	Major national or multinational competitors dominating market share and setting industry trends.
Audit Organizations	Conducts basic audits focusing on following standard reporting practices. Limited impact on daily operations unless major errors or rule breaking is found.	Performs in-depth audits checking internal controls, risk management, and following relevant regulations. May suggest improvements in areas like reporting accuracy, efficiency, or risk mitigation.	Provides in-depth assessments of governance, risk management, and internal controls. Collaborates with the company to strengthen these areas. Significantly influence the company's stability and performance.
Service Providers	Offer basic services that meet general industry standards, with minimal impact on the company's specific needs or quality goals.	Deliver reliable services that consistently meet established quality criteria, but don't necessarily adapt to the company's specific needs.	Work closely with the company to create special services that directly address the company's needs and quality goals. This helps the company keep achieving continuous improvement efforts and enhancing its overall quality performance.

Interested parties	Least Influential (1)	Moderately Influential (2)	Most Influential (3)
Funding Organizations	Funding organizations that provide basic financial services without direct involvement in the company's operations.	Funding organizations that provide loans and financing, their investment decisions significantly impact company growth.	Funding organizations that provide comprehensive financial services and have an influence on liquidity, interest rates, and investor confidence.
Customs	Customs authorities that apply customs regulations in a standard manner without a major impact on the company's operations.	Customs authorities that have in-depth knowledge of customs regulations and can help facilitate import/export procedures.	Customs authorities that can influence customs clearance times, costs, and procedures, which can have a significant impact on the company's operations.
Labor inspections	Conducts basic checks for adherence to minimum wage and work hour regulations. Limited impact on operations unless major issues arise.	Inspects workplace safety, health, and employee protection measures. Ensures the company follows labor laws and safety regulations. May suggest improvements.	Can impose fines or restrictions for serious legal violations. Significant impact on business if problems aren't fixed promptly. Enforces safe and compliant work environment.
Tax Authorities	Apply tax regulations and collect taxes with minimal impact on day-to-day operations. Focus is on accurate tax filing and compliance.	Evaluate the company's financial health to determine their financial obligations. This assessment can influence the company's available resources by adjusting what they owe.	Conduct audits and can impose penalties or take legal action if the company breaks the rules. This can cause big problems for the business and hurt the company's reputation.
Insurance	Offer basic insurance coverage for common risks. Limited impact on day-to-day operations except during claim filing or risk assessments.	Provide more types of coverage and may adjust costs based on the company's risk of accidents or problems.	Collaborate on risk management, influencing operations. Offer expert advice on risk (assessment, mitigation, continuity planning). Impact financial stability during incidents.

Table 3. Influence Levels of Interested Parties

The following table summarizes the requirements of internal and external interested parties, along with their associated influence:

Stakeholder type	**Name**	**Influence Degree**	**Requirements**
Clients	Abderahman ACHOUR Sidahmed DALI Said Ait Toufik EUR ICOSUM OUKLI Youbi Amin	3	– On-time delivery of products. – Availability of products in good condition. – Products delivered in good condition. – High-quality products. – Fresh products. – Excellent customer service. – Meet all order agreements.
	Other clients	2	
Employees	Operator	2	– Social security registration and insurance within 10 days of contract start (CNAS). – Fair payment at or above minimum wage (SMIC). – Overtime compensation for additional hours worked. – Salary paid on time, in the first week of each month. – Safety gear including work clothes, shoes, glasses, and gloves. – Functional fire safety system with fire extinguishers. – First aid kits are accessible in the workplace. – Safe and secure work environment for all employees. – Protection from harassment and discrimination. – Paid sick leave and vacation time according to labor law. – Stable employment with clear career development opportunities
	Administrator	3	
Suppliers	Cevital	3	– Purchase order submitted 3 days in advance.

			– Delivery unloaded within a maximum of 5 hours. – Maintain credit limit (no exceeding debt). – Positive working relationship. – On-time payments. – Annual forecast.
	SGP	3	– Purchase order submitted 15 days in advance. – On-time payments. – Annual forecast.
	GP	3	– Purchase order submitted 15 days in advance. – On-time payments. – Annual forecast.
	BelPlast	3	– On-time payments.
	Sonel Gaz	3	– On-time payments.
	Faromcol	3	– Purchase order submitted 1 month in advance. – On-time payments. – Annual forecast.
	Döhler	3	– Purchase order submitted 1 month in advance. – On-time payments.

			– Annual forecast.
	Arom plus	3	– Purchase order submitted 1 month in advance. – On-time payments. – Annual forecast.
	Aromes d'Algerie	3	– Purchase order submitted 1 month in advance. – On-time payments. – Annual forecast.
	Laboref	3	– Purchase order submitted 1 month in advance. – On-time payments. – Annual forecast.
	IPRA	3	– Purchase order submitted 1 month in advance. – On-time payments. – Annual forecast.
	FAPAA	3	– Purchase order submitted 1 month in advance. – On-time payments. – Annual forecast.
	PTD	2	– On-time payments.

	Stapp	1	– On-time payments.
	SGT	2	– On-time payments.
	General Emballage	2	– On-time payments.
	POMARIA	2	– On-time payments.
	Maghreb Emballage	3	– On-time payments.
	ABFlex	3	– Purchase order submitted 2 months in advance. – On-time payments.
	Sipa Packaging	3	– On-time payments.
	Linde Gaz	2	– The supplier offers a free tank for rent as long as they purchase their CO2 gas to fill the tank. – On-time payments. – The supplier offers a free tank for rent as long as they purchase their CO2 gas to fill the tank. – On-time payments.
	PETROFINA	3	
	Rayanox	1	

	SOPERA	3	– Proper licensing and authorization for the use of chemical products. – On-time payments.
	ACI Algerie	2	– Proper licensing and authorization for the use of chemical products. – On-time payments.
	Poliol	2	– Valid Tax Registration. – On-time payments. – Payment Method.
	Cortilazzy	2	– Valid Tax Registration. – On-time payments. – Payment Method.
	P.E. labellers	2	– Valid Tax Registration. – On-time payments. – Payment Method.
	Dimac	2	– Valid Tax Registration. – On-time payments. – Payment Method.
	SARL Maghraoui	3	– Detailed Technical Specifications.

			– On-time payments.
	EST Merabt	2	– Detailed Technical Specifications. – On-time payments.
	SARL Lazrag	2	– Detailed Technical Specifications. – On-time payments.
Competitors	All the competitors	2	– While competitors might not directly state their requirements to L'Exquise, but understanding and anticipating their expectations like keeping high product quality and fair competition helps maintain market standards and mutual respect.
Audit Organizations	Audit Organization	3	– Compliance with Standards and Regulations. – Complete Documentation and Evidence.
Service Providers	External Accountant	3	– Complete and accurate financial documents. – On-time payments. – Availability for meetings and discussions when needed.
	Training Service Providers	2	– Clear Needs Assessment. – List of training participants with skill levels. – Commitment from the participants. – On-time payments.

	Marketing and Advertising Agencies	3	– Product Information and Specifications. – Brand Assets. – Product Samples. – On-Time Payments.
	Research and Development Collaborators	2	– Clearly defined target aroma profile. – Product information. – Clear communication and feedback.
	External Laboratories	2	– Clearly Defined Testing Needs – Payment Methods and Terms
Funding Organizations	AL baraka	3	– Maintain updated financial and business records. – Clearly state credit needs. – Provide annual financial statements. – Detailed assets used as loan guarantees. – Show ability to cover debt payments. – Ensure compliance with regulations.
	NATIXIS		
Customs	Customs	3	– Certificate of Origin – EUR.1 Certificate – Commercial Invoice – Bill of Lading – Customs Declaration Form

Labor inspections	Labor inspections	3	– Business Registers – Employee Entry/Exit Records – Payroll Records – Leave Records – Safety and Hygiene – Machine Maintenance Records – Observations
Tax Authorities	Tax Authorities	3	– Business Register – Company Status – Operating License – Compliance with Regulatory Conditions – Accounting Register – Invoicing – Tax Registration
Insurance	CNAS	3	– Online Affiliation Application – Forms for Deductions – Employment Contract – Employee File – Payment – Permanent Contract – Fixed-Term Contract – Annual CNAS Declaration (DAC)
Others	APOCE		– Product Safety – Product Labeling – Transparency – Compliance with Regulations – Ethical Practices

Table 4. Interested Parties and their requirements

4. Scope of Application:

The Quality Management System (QMS) at L'Exquise will be applied across the entire organization, ensuring that all operations and processes meet quality standards.

By applying the QMS to the whole organization, we aim to improve consistency, efficiency, and product quality, ultimately enhancing customer satisfaction.

Aspect	**Details**
Objective of the Procedure	Quality Management System
Scope of Application	The entire organization
Reference Documents	Quality Manual, ISO 9001 Standards
Responsibilities	General Management, Quality Control Manager

Table 5. Scope of Application Details

5. Quality Management System and Its Processes:

In this chapter, we will introduce the different processes that form L'Exquise's quality management system. We will provide a detailed cartography for each process, illustrating its components and interactions. Each process will be examined in detail, highlighting its objectives, inputs, outputs, and activities, and performance indicators.

Finally, we will present a relational table that shows the connections between each process.

5.1. The processes:

- Procurement Process
- The General Management
- Technical Process
- Human Resources Process
- Production Process
- Quality Control Process
- Sales and Marketing Process

5.2.Processes Cartography:

5.2.1. Procurement Process:

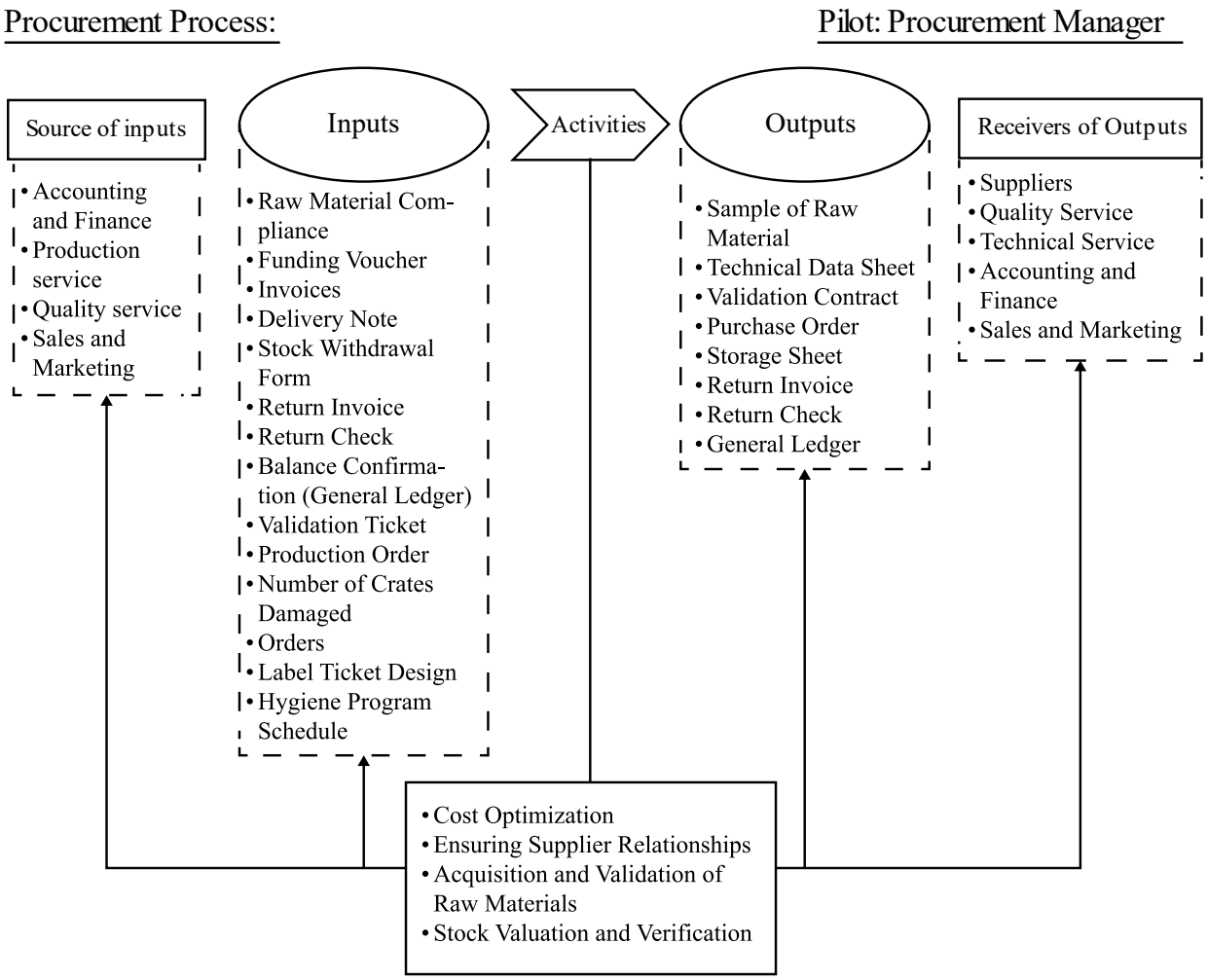

Fig 17. Procurement Process

Purpose of the process: acquire high-quality raw materials in a timely and cost-effective manner to ensure uninterrupted production.

Process family: Support.

Resources and tools: Procurement software, Material specifications, supplier contracts and information, market information, the company's financial state and the raw material inventory state.

Performance Indicators: Cost of production, raw material stockouts.

5.2.2. The General Management Process:

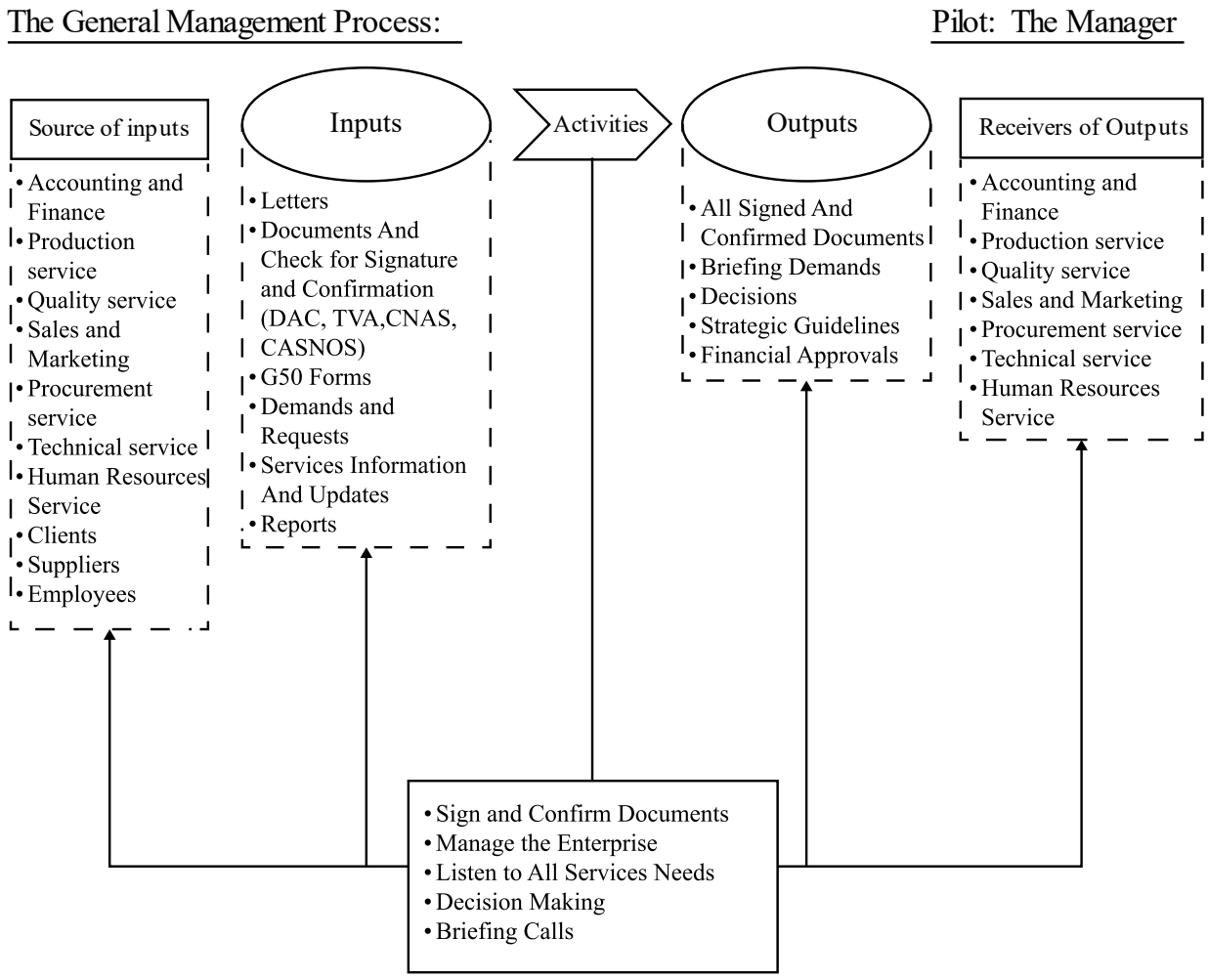

Fig 18. The General Management Process

Purpose of the process: provide strategic direction, leadership, and making decisions for the overall management and success of the organization.

Process family: Management.

Resources and tools: Strategic planning tools, Communication between all services, services information and updates and their Performance.

Performance Indicators: Organizational growth, employee satisfaction, financial performance, achievement of the strategic objectives, customer satisfaction ratings.

5.2.3. Technical Process:

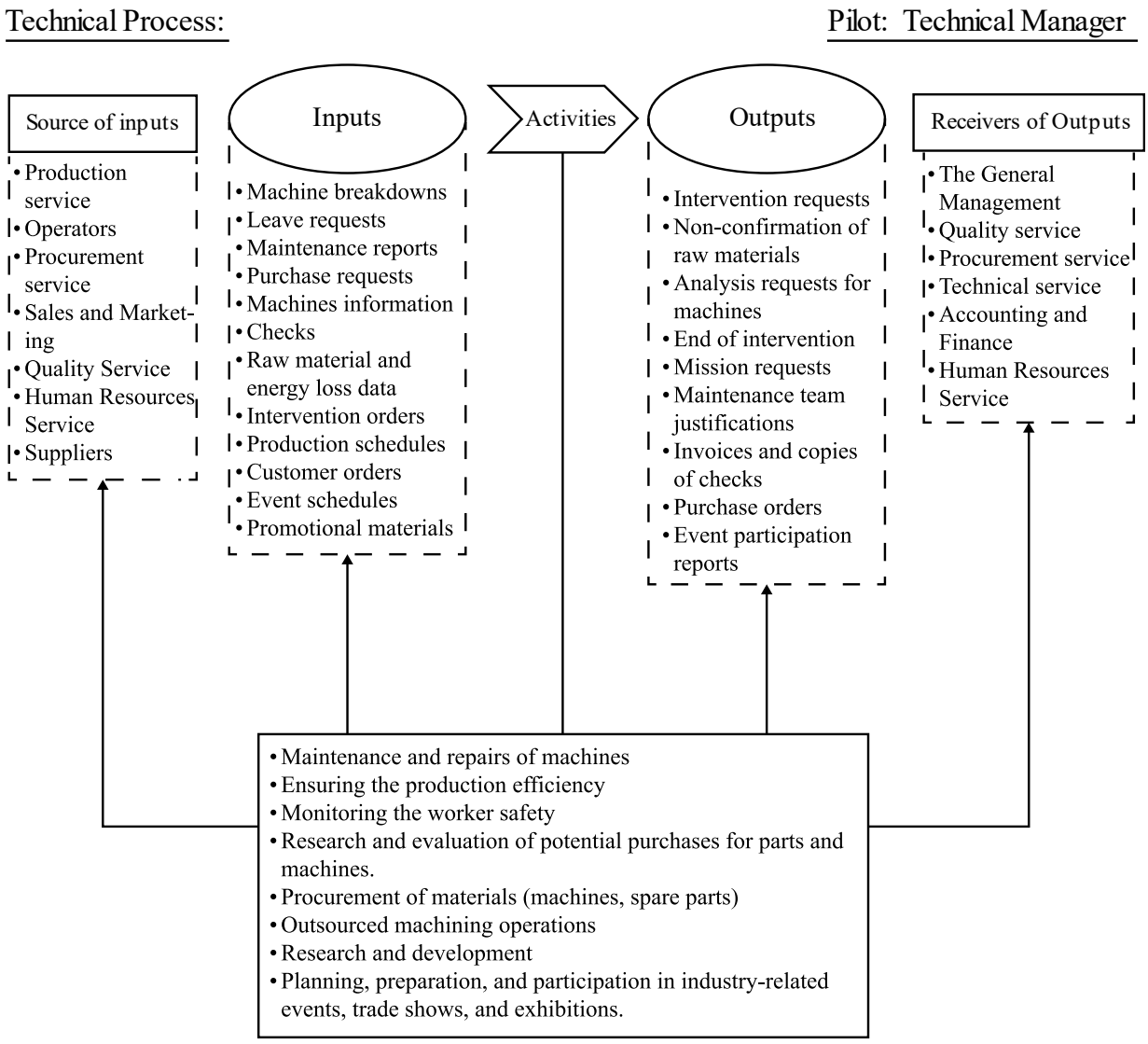

Fig 19. Technical Process

Purpose of the process: Ensure continuous and efficient production by performing timely maintenance and procuring machine parts as needed.

Process family: Realization

Resources and tools: Maintenance technicians, maintenance tools and equipment, spare parts inventory, reports about the breakdowns and the maintenance.

Performance Indicators: Machine breakdowns, machine parts consumption, machine uptime.

5.2.4. Human Resources Process:

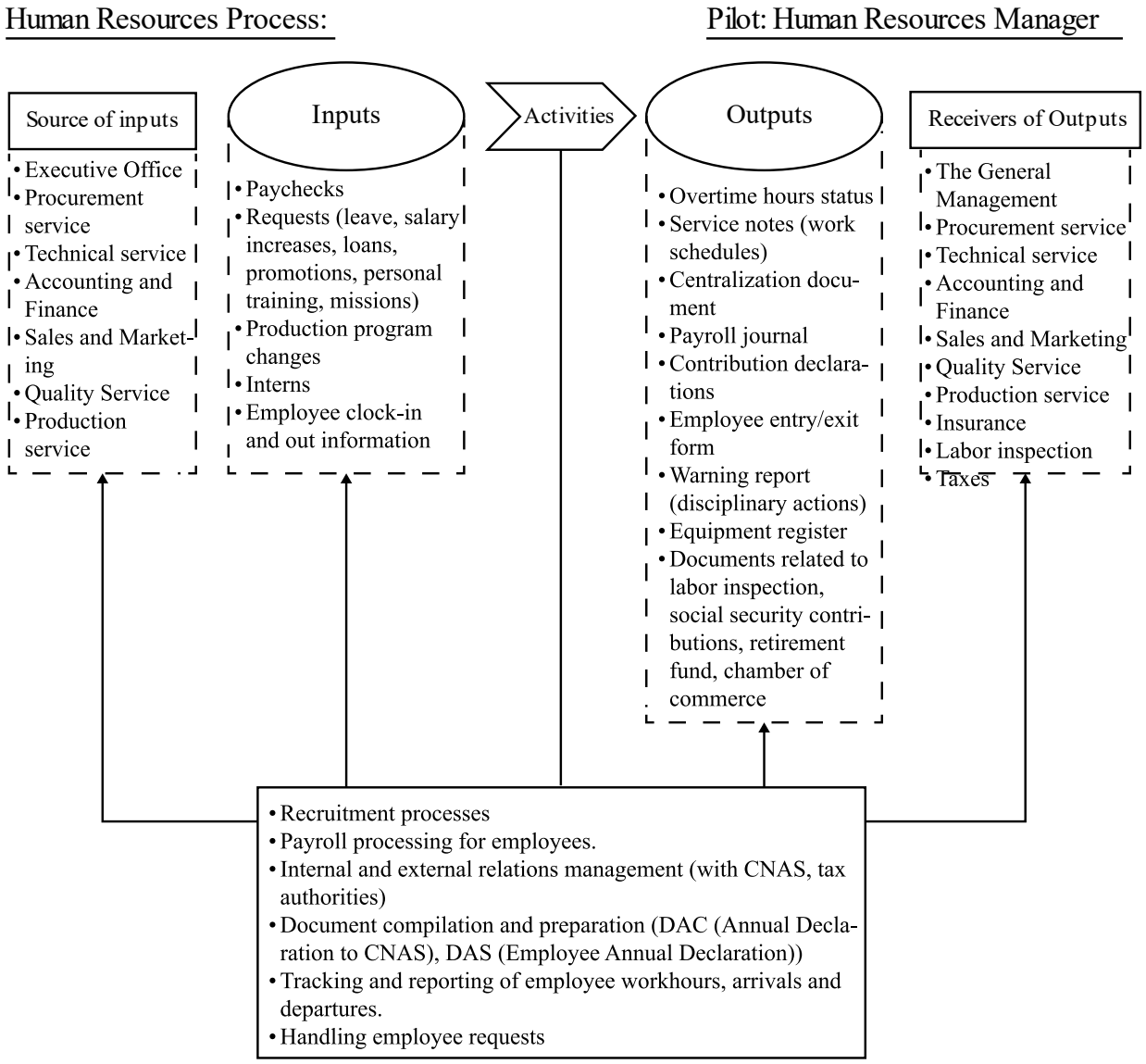

Fig 20. Human Resources Process

Purpose of the process: Maintain effective management of human resources to support organizational goals and objectives.

Process family: Support

Resources and tools: Human Resource management software, payroll system, performance management tools, staff information, time clock system for employee attendance tracking.

Performance Indicators: Absence rate, on-time payment, increase in salaries, stability in recruitment, employee retention rate, Employee satisfaction

5.2.5. Production Process:

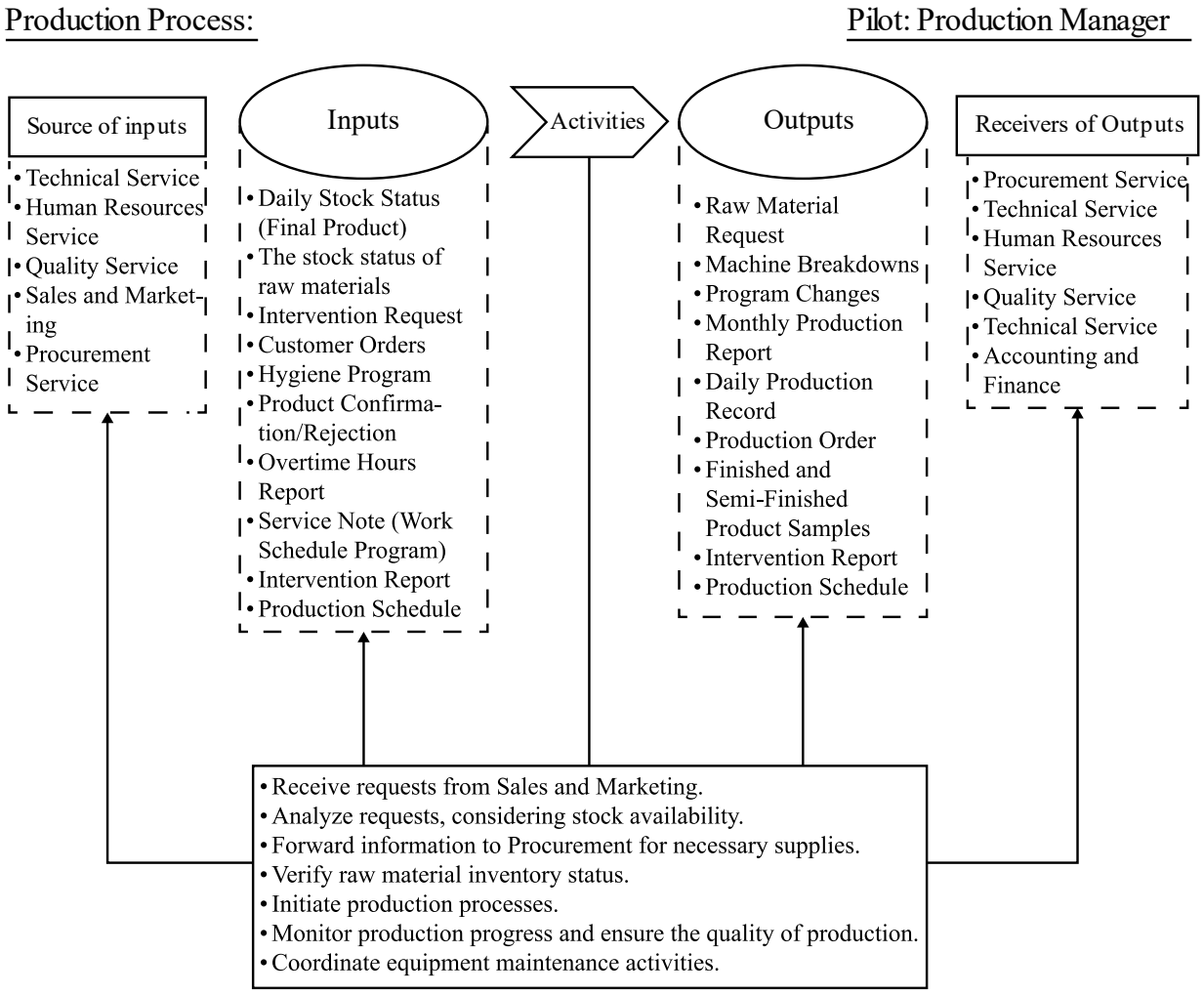

Fig 21. Production Process

Purpose of the process: Efficiently manufacture high quality products on time that meet customer demand

Process family: Realization

Resources and tools: Machines and equipment for production, raw materials and components, skilled production personnel, production schedule, client's orders.

Performance Indicators: Quantity and quality of products manufactured, efficiency of production.

5.2.6. Quality Control Process:

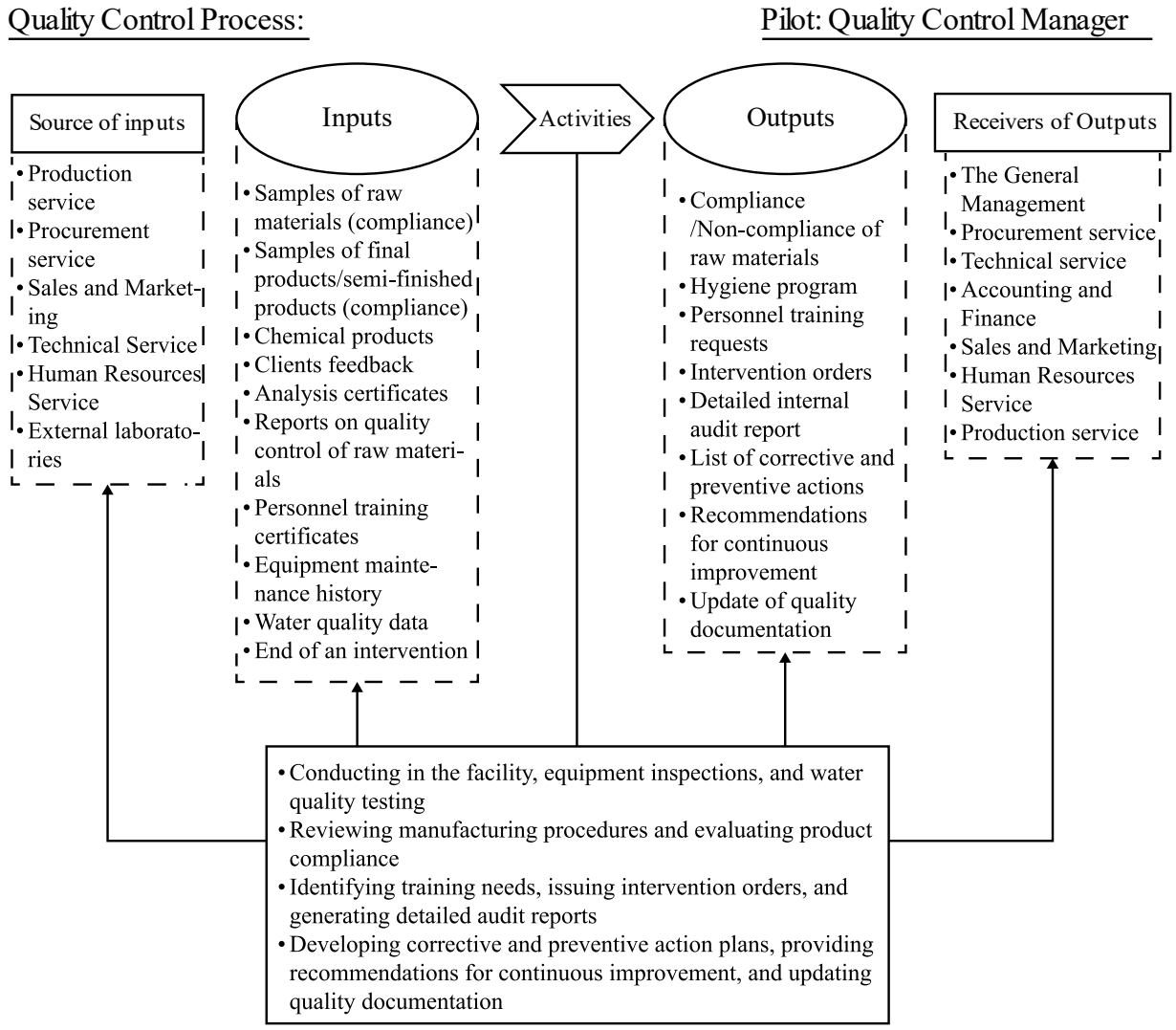

Fig 22. Quality Control Process

Purpose of the process: Monitor product and raw material quality, ensure compliance with the standards, and contribute to developing new products.

Process family: Realization

Resources and tools: Quality control personnel, Lab tools and equipment, final and semi-final product samples, Compliance manuals.

Performance Indicators: Non-conforming products, levels of waste, hygiene level.

5.2.7. Sales and Marketing Process:

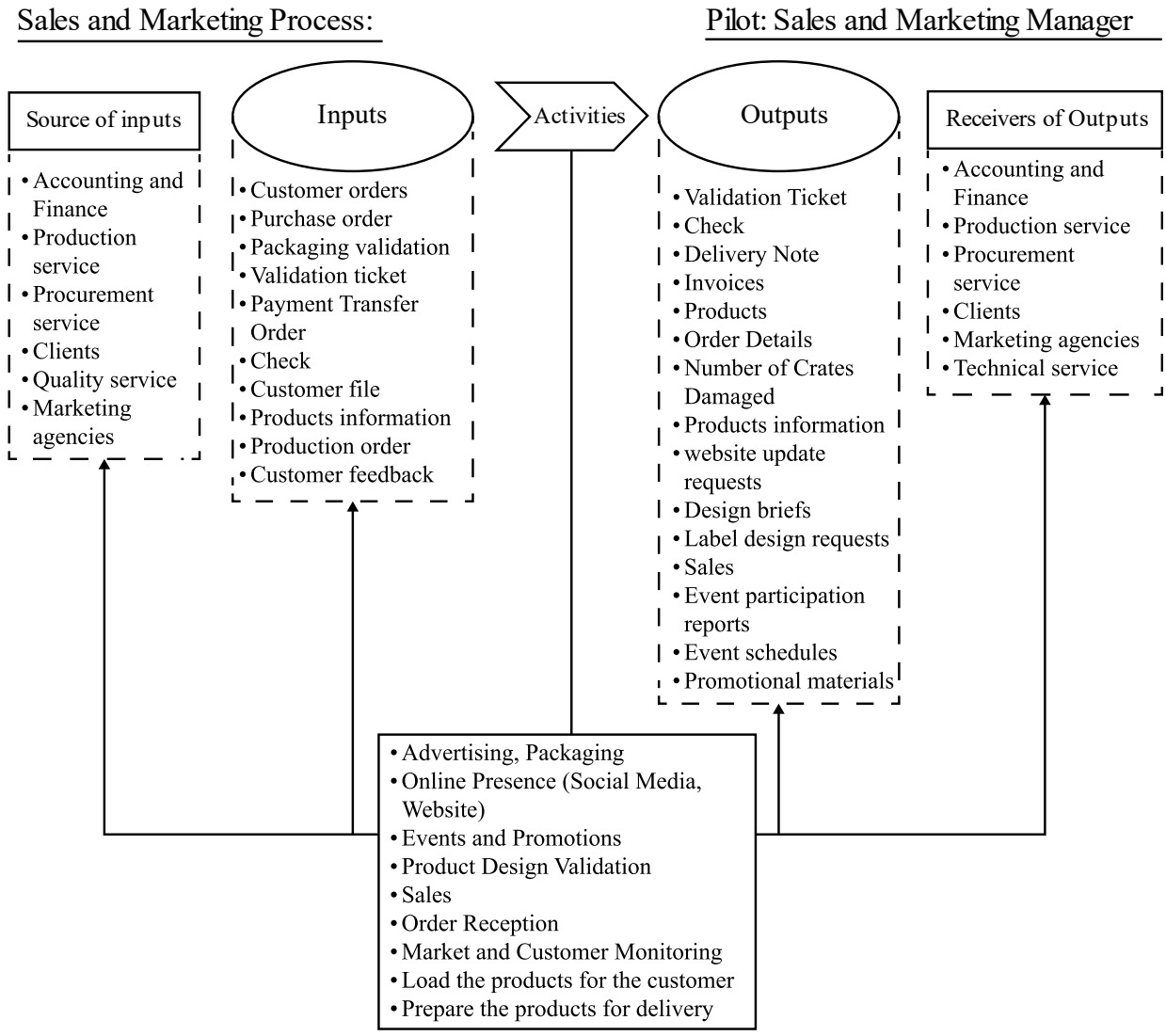

Fig 23. Sales and Marketing Process

Purpose of the process: Enhance product sales and market presence through effective sales and marketing strategies.

Process family: Support

Resources and tools: Marketing materials and campaigns, market information, product catalogs, Resources for trade shows and events.

Performance Indicators: sales, customer interactions, lead conversion rate, brand awareness, customer satisfaction score, engagement on social media platforms.

5.2.8. Process Cartography:

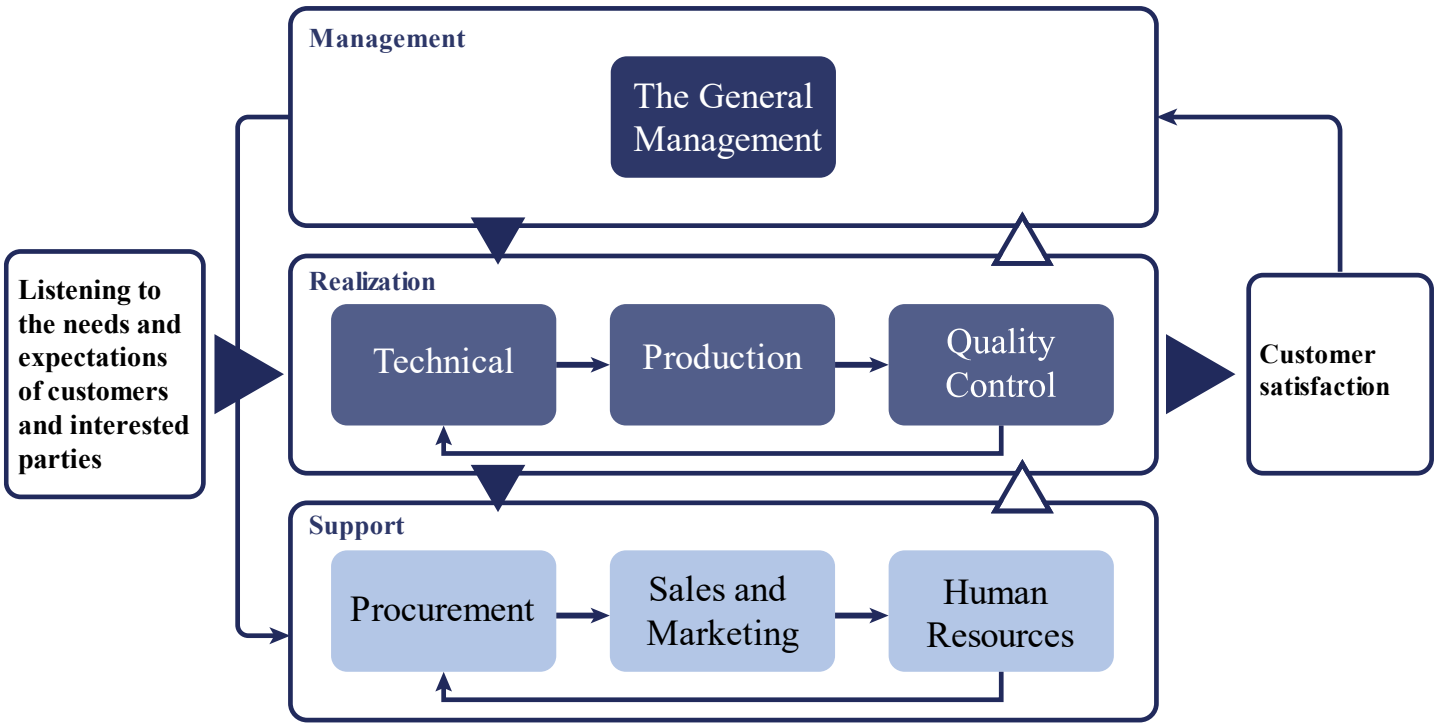

Fig 24. Processes Cartography

5.3.Process Interaction Matrix:

Process	Procurement Process	General Management	Technical Process	Human Resources Process	Production Process	Quality Control Process	Sales and Marketing Process
Procurement Process	-	Informed of procurement activities	N/A	Receives staffing and training support	Informed about raw material availability	Gets raw material quality feedback	Receives client orders and designs input
General Management	Provides strategic oversight	-	Allocates necessary resources	Keeps updated on HR activities	Reviews production plans and progress	Reviews quality assurance activities	Oversees sales and marketing direction
Technical Process	N/A	Updates management on equipment status	-	Coordinates on staffing and mission requirements	Provides maintenance support	Receives maintenance related feedback	Communicates details for events and exhibitions
Human Resources Process	Coordinates staffing needs for procurement	Keeps updated on HR activities	Provides staff for technical tasks	-	Manages extra hours and staffing adjustments	Provides training programs	Provides staffing for sales and marketing
Production Process	Checks with procurement on raw material stock	Informs management of production status	Requests technical support	Communicates employee's extra hours and staffing needs	-	Receives quality confirmation and hygiene guidelines	N/A
Quality Control Process	Gets raw material quality approval	Keeps management informed of quality status	Shares maintenance and hygiene schedules	Requests training support	Confirms product quality, shares hygiene protocols	-	Provides quality information for marketing
Sales and Marketing Process	Shares market demand and design feedback	Updates management on sales performance	Communicates details about events and exhibitions	Coordinates on staffing and support	N/A	Utilizes quality data for marketing materials	-

Table 6. Interaction Matrix of L'Exquise Processes

6. Conclusion:

In this chapter, we took a close look at the context of L'Exquise, using the principles of ISO 9001:2015. We started with a SWOT analysis to find our strengths, weaknesses, opportunities, and threats. This gave us a clear picture of what affects our Quality Management System (QMS).

We also identified our key stakeholders, looking at how they impact on our company and what are their requirements. Knowing this helps us make sure our processes meet their expectations.

Then, we defined the scope of our company, setting the limits for our QMS. This made sure we covered all important activities and processes.

Finally, we described the specific processes within our organization, showing how each one contributes to our quality goals.

By addressing these areas, we have built a strong base for a QMS at L'Exquise. This will help us improve consistency, efficiency, and customer satisfaction.

GENERAL CONCLUSION

In conclusion, this thesis has significantly enhanced our understanding of quality management and the ISO 9001 standard, specifically analyzing their application within the context of L'EXQUISE. By diving deep into these subjects, we have been able to provide both a theoretical and practical foundation that is comprehensive. The exploration contained several chapters, each contributing crucial insights and laying the groundwork for effective implementation of a Quality Management System (QMS) that aligns with international standards.

First, we introduced the essential terms and concepts related to the Quality Management System (QMS). We discussed their definitions and principles, which provided a necessary framework to guide our understanding and actions throughout the project. This foundational knowledge was crucial in preparing us for the detailed work that followed.

Secondly, we took a closer look at L'EXQUISE, offering an in-depth exploration of the company's history, organizational structure, and the available departments. This chapter also detailed the products manufactured by L'EXQUISE, alongside the detailed processes and activities required to deliver these products. By thoroughly examining these aspects, we gained valuable insights into the company's operations.

Finally, we focused on the practical application of Chapter 4 of ISO 9001, titled "Context of the Organization." This chapter began with a comprehensive SWOT analysis to identify internal strengths and weaknesses, as well as external opportunities and threats that affect the Quality Management System (QMS). This analysis was crucial in understanding the internal capabilities and external factors and challenges that can impact our quality management system. Following this analysis, we moved on to identifying all interested parties, for each party, we identified their specific requirements and expectations from the company. We also assessed the influence degree of each interested party on our QMS, understanding how critical and important their needs are in shaping our quality policies and objectives.

And then we provided a detailed explanation of the company's processes. This involved identifying the inputs and outputs of each process, specifying the sources of inputs and the destinations of the outputs, and detailing the activities for every process along with their designated pilot. Additionally, we established performance indicators for each process to measure effectiveness and efficiency. We categorized each process into its respective family, whether it be realization, management, or support. Finally, we mapped out the interactions between all the processes, showing how they interconnect and support one another and summarized in a cartography. This thorough approach ensured that we covered all essential aspects necessary for the start of an effective quality management system.

In conclusion, we have successfully laid a solid foundation for a QMS that performs well at L'EXQUISE. By thoroughly applying Chapter 4 of ISO 9001:2015, we have taken significant steps towards enhancing the company's quality management practices. However, the work does not stop here. The QMS requires continuous effort and improvement, and as we progress through the remaining chapters, we will continue to refine and strengthen our system, ensuring it remains strong and effective in the face of future challenges.

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