Private International Institute of Management and Technology

Integrated Process Reengineering to Unlock True Potential of Digital Transformation

Business research proposal submitted to the Department of curriculum and evaluation in partial fulfillment for the MBA Degree in Project Management

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Acknowledgement

I would like to dedicate this project to all the people who supported me in achieving it, whether it was my colleagues from the departments that participated in this study or my IUL teachers who gave me the means and the knowledge to concretize the project.

To my dear wife Safaa, for her unconditional support and love.

To all my family and friends.

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List of acronyms and abbreviations

MRO	Maintenance, Repair and Operations
ERP	Entreprise Resource Planning
CRM	Customer Relationship Management
ECM	Entreprise Content Management
PMO	Project Management Officer
PM	Project Manager
TSF	Technical Specification File
CEI	Call for Expression of Interest
CA	Call for Application
MCAC	Management of Call for Application Committee
PR	Purchase Request
HSE	Health, Safety and Environment
TC	Tender Committee
PCM	Purchasing Category Manager

General Introduction:

“We are working at all levels to build an agile and innovative company, capable of reinventing its production and collaboration methods by putting people and digital technology at the heart of transformations”

Mostafa TERRAB, CEO of OCP Group

Being competitive in a fast-paced competitive environment and a constantly changing market is a major challenge. OCP Group has set itself the means to meet the challenge of process redesign while taking advantage of new technologies to redesign internal processes and reinvent the relationship with internal and external stakeholders, and all this by adopting a digital transformation that requires both a change in state of mind and working methods, which is not the responsibility of technology alone.

The first part of our research first defines the context of the work, that is, the missions and activities of the host organization. Then, she presents the theoretical framework of the subject in the form of a literature review. Finally, it describes the methodology envisaged for the conduct of the project.

The second part, which is intended to be more practical than theoretical, first deals with the description and criticism of the existing, the current processes and the behaviors of the collaborators objects of the research. Then in the second place, on the light of the critique of the existing, a reengineering of the processes and a modelling are made for the proposal of the solution. Finally, a change management study is suggested to facilitate the application of the new resolution.

Statement of the problem:

The Purchasing and Logistics function is very much in demand in industrial companies, so the improvement of this function is essential since it affects the entire value chain of the company.

Moreover, rethinking the procurement and logistics business process and its re-modelling is a major challenge to ensure that the digital transformation process of the business is efficient, sustainable and flexible to accommodate any changes.

Addressing this issue leads us to ask ourselves the following questions:

- Do current procedures allow digital evolution?
- What are the prerequisites for adopting a digital transformation approach?
- In which cases is it possible to apply digitalization to the purchasing function?
- What efforts should be made before and after a transformation to ensure its sustainability?
- What attitude should the project team have to mitigate resistance to change?

To answer these questions we will proceed as follows:

- Map current practices/processes that govern the sourcing function to highlight the tasks performed by each of the players along the value chain;
- Evaluate quantitatively and qualitatively the efforts made and the gaps encountered by each of the actors on the basis of the detailed description of each of the tasks;
- Identify anomalies and shortfalls in each phase of the process through additional observations and some stakeholder testimonies
- Propose a re-engineering of current processes to ensure the fluidity needed to apply any technology.

First part

Chapter I: General research context

1. General presentation of the host organization:

a. Host organization activities:

The host organization operates on five continents and has the largest reserves of natural resources exploited worldwide. With over 90 years of experience in mining and 45 years in industrial processing, it is the world leader in the market in which it operates. It offers one of the widest ranges of products for various uses. These elements allow it to occupy a central place in the world export market and also in the employment market: indeed this company has approximately 24,000 employees, which places it among the largest Moroccan employers.

Designated as the first industrial company in Morocco, with a turnover of 5.5 billion USD, this company contributes substantially to the development of the national economy through its exports, which exceed 28%. Thus, it provides continuous support to Moroccan agriculture in general and to SMEs in particular, whose development has a significant impact on national wealth.

b. Product categories:

The host organization controls the entire value creation chain of the natural resource industry: extraction and processing of ore, transformation of this raw material into an intermediate liquid product, and manufacture of finished products by concentration and granulation of this acid.

Three regions in Morocco concentrate the Group's mining activities with 4 mining sites in Khouribga, 3 in Gantour and 1 in Boucraâ. The transformation activities of this natural resource into acid and fertilizer are mainly concentrated at the Jorf Lasfar and Safi sites. A large-scale project related to industrial development in Boucraa is also deployed over the period 2014-2020 with a view to strengthening the industrial activities of the Boucraâ site, diversifying the product portfolio, developing the regional ecosystem and contributing to the socio-economic development of Regions of southern Morocco: Guelmim - Oued Noun, Laâyoune - Sakia El Hamra and Dakhla - Oued Ed-Dahab.

With more than 160 customers across 5 continents, the Group is further consolidating its positions in finished products while strengthening its presence in particular in Africa, North America and Latin America. The Group's industrial flexibility and commercial agility are reflected in its increasingly diversified product and regional portfolios.

c. Legal status:

The host organization was set up in the form of a State organization, but given the nature of its commercial and industrial activities, the legislator wanted to give it the same

flexibility as the powerful private companies with which it finds itself in competition. In 2008, it became a limited company.

Since its creation in 1920, the Group's mission has been the extraction, processing, recovery and export of natural resources and their derivatives to requesting countries. The company is registered in the commercial register and is subject to the same tax obligations as any private company (patent, customs duty, export taxes, wage tax, profit tax, etc.).). However, it has a financial management separate from the state, so each year it establishes its cost price, its operating account, its balance sheet and contributes to the state budget.

2. Group organization chart:

a. General organization chart:

Below, the general organization chart of the Group:

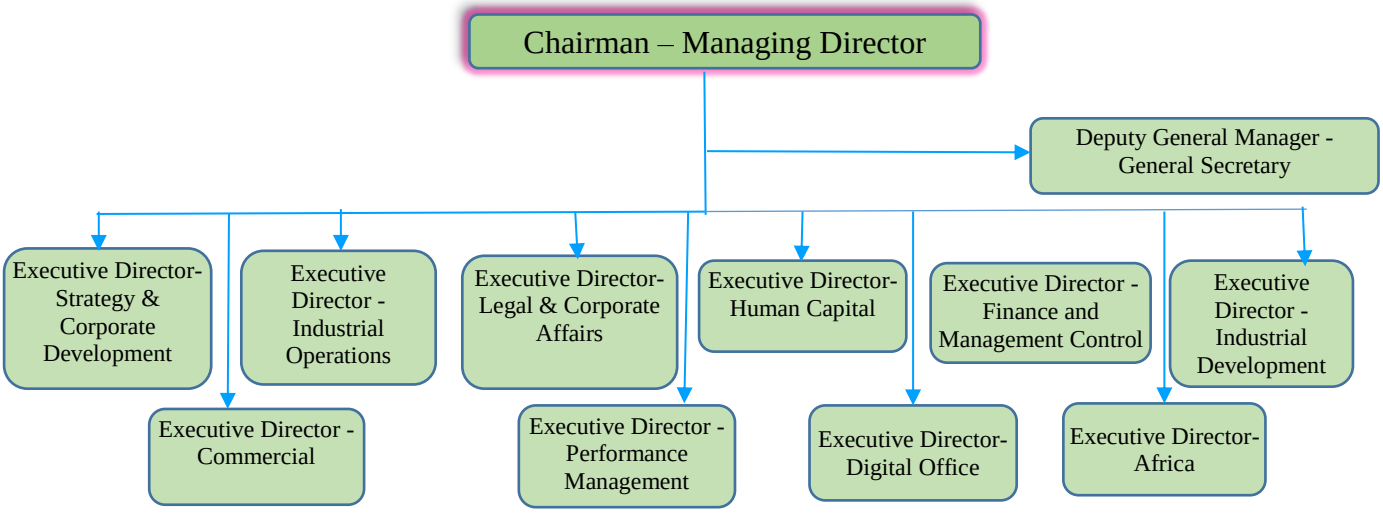

Figure2 Group organization chart

d. Host Department Specific organization chart:

The organizational chart below shows how the General and Institutional Affairs Department, to which we are assigned, is organized as following:

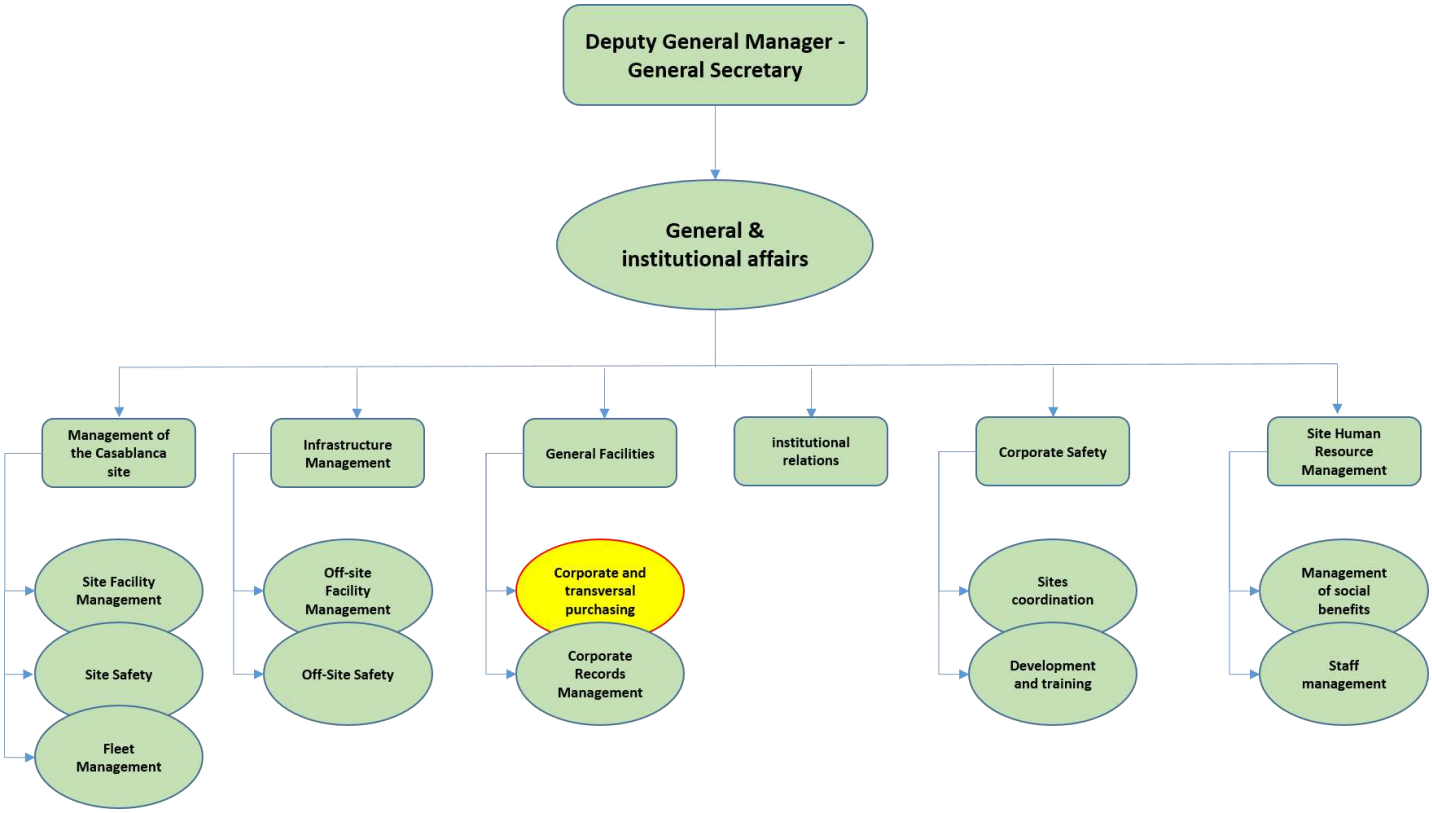

Figure2: Specific organization chart (Purchasing entity)

Corporate and Transversal Purchasing is the entity concerned by this project.

3. Group missions and values:

The Group is committed to balancing its economic leadership with its moral responsibility to ensure the long-term availability of this essential mineral to the world. Thus, it reconciles a policy of managing its resources aimed at ensuring profitable and sustainable growth with its commitments to play a leading role in the fields: social and environmental.

a. Duties:

The Group's mission consists of:

- Prospecting: This step consists of digging wells to delimit the deposit and find out about the power of the layers and their contents in order to decide on the suitable extraction method to adopt.
- Extraction: This involves extracting the rock from the ground. It is carried out in deposits either in the open sky or in underground; this activity is operated in centers of Khouribga, Youssoufia, Benguerir and Boucrâa.
- Processing: This third step consists of increasing the grade of the rock. There are different processes: washing, calcination, dry enrichment and flotation. These operations are performed to remove impurities and moisture from the raw ore.
- Recovery: This consists of transforming the ore into chemical products, in particular into acid or in the form of fertilizer. The valuation was developed because it increases the Group's profit margin.
- Marketing: As a last step, it is a question of selling the ore and its derivatives inside and outside Morocco.

b. Values:

The main values of the group are:

- Integration, diversification and innovation, key factors of leadership: the Group aims to consolidate its leading position on the world market while preserving the interests of all stakeholders.
- Environmental management: sustainable development and preservation of the environment form part of the foundations of the Group's practices. Thus, development projects are measured by respecting these criteria. The advanced technologies implemented in this context are intended to minimize the environmental impacts of operations.
- Social commitment.

4. Organization of the Purchasing entity:

Purchasing plays a key role in the company's supply chain. Indeed, purchasing department negotiates the terms of the contract or the order, namely the incoterms, the terms of payment, the amount, the delivery times, the mode of execution of the deliveries (total, partial, batch delivery, etc. .).

The function of Purchasing conditions the rest of the supply chain, hence the importance of proper control.

Here are the main steps of the Purchasing process:

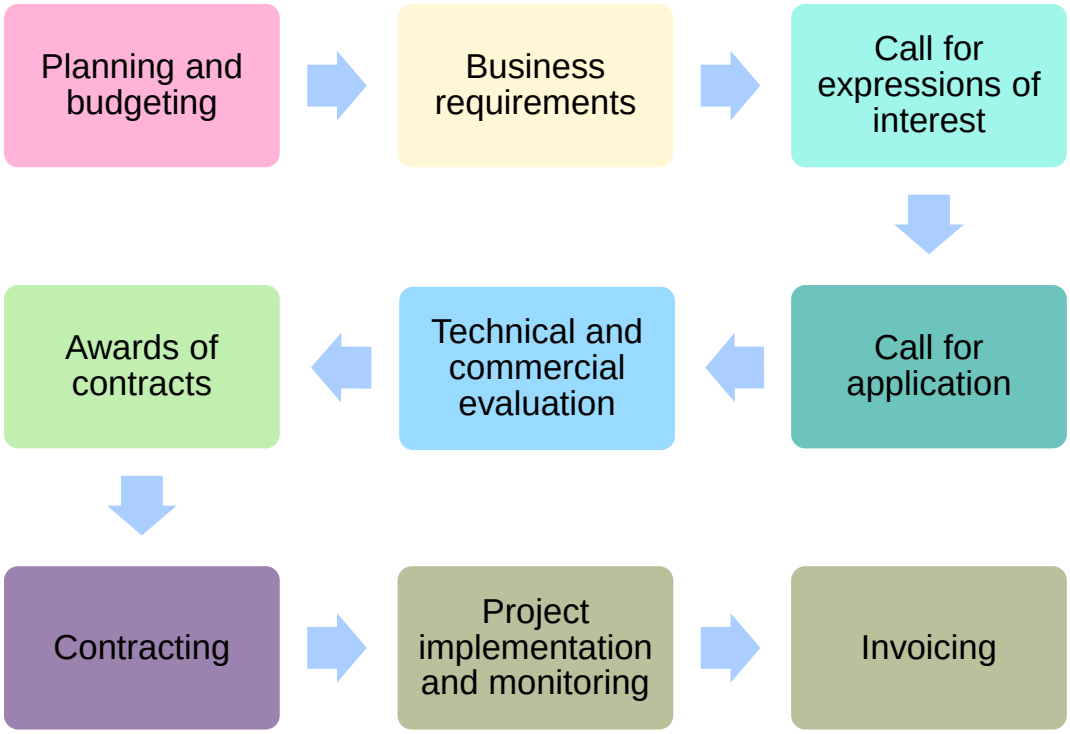

Figure3: General Purchasing Process

NB: Project reception and bill payment do not come directly under the functions of the Purchasing Department.

Chapter II:

Literature Review: Definitions and Basic Concepts

This literature review will allow us to become acquainted with the most important concepts related to our subject in order to define a precise research framework.

1. Purchasing function:

a. Definition of the Purchasing function:

The purchasing function is the set of tasks, which aim to acquire, as soon as possible, at the best price and with better quality, the products, and/or services that the company needs for the performance of the operations that derive from his vocation**.**

"Purchasing falls by definition into the category of so-called "support" functions. However, for barely more than forty years, companies have discovered hitherto unsuspected virtues in it, willingly qualifying it as "strategic". All the Purchasing function, Author: ***Small, Philip2016.***

This function is based on three main components, Knowledge, know-how and interpersonal skills, which we outline as follows:

- **The knowledge :**

  The positioning of purchases;
  Purchasing organizations;
  Financial issues and risks;
  The legal aspects.

- **The know-how :**

  Analyze the portfolio;
  Study an upstream market;
  Identify the right suppliers;
  Master the expression of a need;
  Make a call for tenders;
  Analyze the commercial offers of the suppliers.

- **The know-how**

  Be open and creative;
  Adapt your style;
  Be a real communicator;
  Asserting oneself and perpetuating the relationship;
  Deal with blockages.

b. Types of Purchases:

The company often has purchasing needs that are not alike. This leads to a segmentation of professions and methodologies adapted to each type of purchase. We particularly distinguish:

- Direct or "production" purchases, linked to the company's core business (eg raw materials, components, semi-finished parts, etc.), purchases of services such as cleaning, reception, multi-technical or guarding within the framework of facility management.
- Indirect or “non-production” purchases are purchases of products and services that are not related to the company's core business, but to operating expenses. These are general purchases, services (company catering, local printing, business trips or company vehicles, etc.).
- Merchant purchases are products and services purchased to be resold without transformation. Such as trading, purchases from mass distribution or specialized distribution, etc.

According to the book Strategy Purchasing the essentials of good practices 2014: For thirty years, Purchasing organizations have undergone transformations to increase their skills and increase their maturity, they have gone through the following stages:

- The establishment of a process that describes the “who-does-what” and “the how”, from the expression of the need to the supplier's payment;
- The search for performance through the generalization of Purchasing and the establishment of synergies;
- Anticipation and definition of purchasing policies and future expenses. At the same time, organizations deploy quality policies, contribute to stabilizing sources of supply and attempt to limit the risks associated with purchasing processes.

c. The challenges of the Purchasing function:

The importance of the Purchasing or Supply function can be at several levels:

- On the financial level: the Purchasing policy has a large share in the profitability of the company while influencing its margin.
- On the commercial level: the supply function ensures the elimination of overstock while providing good quality products.

- On a strategic level: the Purchasing function is essential for the competitiveness of the company and its contribution in terms of costs and deadlines.

d. The development of the Purchasing function:

The Purchasing function, throughout history, has gone through three stages in its development, namely:

- 1st step :

A period when the Purchasing function was considered as a mainly administrative function, the role of the buyer was to place orders, to make Purchasing requests flow. The added value of Purchasing was therefore economically low. Some companies still apply this model.

- 2nd step:

In this stage, the Purchasing function begins to contribute to the profit of the company since it becomes not only administrative but also negotiating. The buyer does not only place orders but negotiates with suppliers. The economic added value is much higher.

Most companies are at this level of development.

- 3rd step:

Today, the Purchasing function is at the heart of all the strategic policies of innovative companies, the Purchasing function is no longer a simple logistical support, but a provider of solutions for the growth of the company. Buyers become real negotiators, and are no longer content to carry out an administrative follow-up of procedures. Their decision-making and their autonomy are increased thanks to the definition of effective purchasing policies upstream.

Finally, an effective and successful Purchasing policy must take into account the entire value chain.

The following diagram describes the different development phases of the Purchasing function:

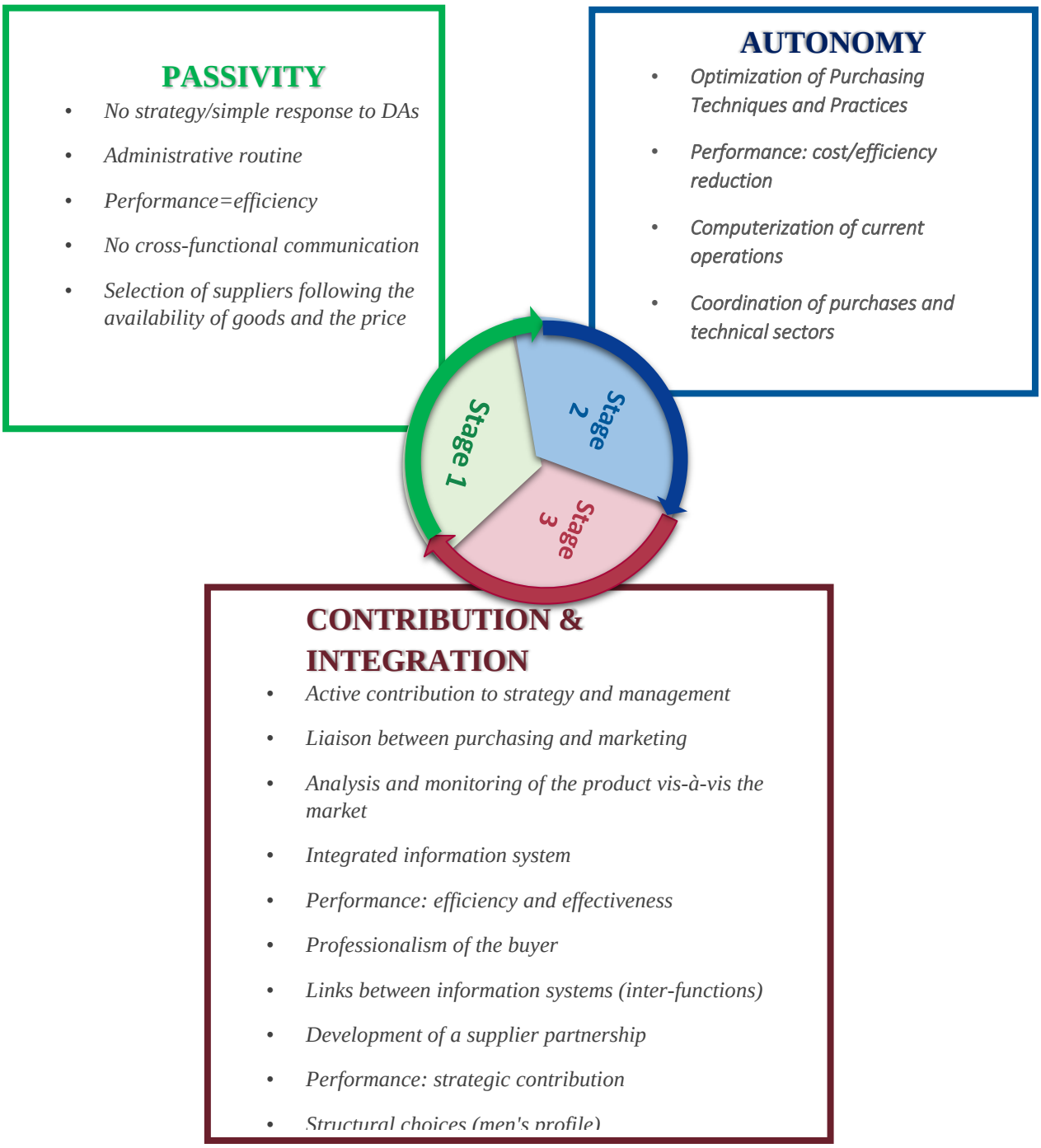

Figure4: Development phases of the Purchasing function

e. Purchasing in the industrial environment:

Recognized in companies for 30 years, the Purchasing function is essential. Having become real risk managers, buyers detect innovation among suppliers and steer the company towards sustainable purchasing based on good purchasing practices.

In industrial companies, the organization of Purchasing varies according to different parameters such as the size of the company (SME or multinational), its organization (presence or not of an ERP), its structure (mono or multi site) or the complexity of the manufacturing process.

Indeed, if so-called "MRO" Purchases (General Purchases other than production) are most often an "administrative" act, the Purchases of equipment, works or services which are part of the industrial process, require for their part a technical competence because they directly impact the performance and the quality of the production.

The Purchasing decision is therefore most often the result of a consultation of various stakeholders, directly or indirectly involved in the choice of new equipment, rarely by an isolated individual.

This is why, in many companies, the sites often have a certain independence for the management of their Purchasing. The technical departments (new works, production, maintenance, etc.) are generally authorized to order their Purchases of equipment or services, within the limit of a certain volume. Beyond this limit, the approval of the Purchasing Department, often located at head office level, is required.

On the largest sites, the decentralized Purchasing departments have the technical skills essential for choosing production equipment. In this case, the Purchasing Department at head office most often intervenes only for the final negotiation and plays a purely administrative role.

In engineering companies, the circuit is still different and several models can be adopted depending on the project: most often, the role of engineering encompasses the identification of potential suppliers (Sourcing), calls for tenders, commercial negotiations and extends to the placing of orders (Procurement) on behalf of the customer who provides the financing himself. In the context of “turnkey” contracts, engineering can intervene up to the financing of purchases.

Below is the Purchasing cycle illustrated by Philippe Petit in the book: All the Purchasing function, Dunod 2016:

Figure5: The Purchasing Cycle (PDCA)

2. The process approach:

a. Definition of the process:

There are several definitions that can be given to the notion of process and this according to the field to which it is linked.

According to the ISO 9000 Version 2015 standard: “a process is the set of interrelated or interactive activities that transforms input elements into output elements”.

A process is an overview of the activities carried out in an organization, it specifies the key and essential tasks forming a logical sequence and having a well-defined purpose. Process descriptions generally relate to people or teams because they require a considerable level of interactivity and transversality that involves all the actors involved.

A process is characterized by:

- A name ;
- A beginning and an end;
- Entrances ;
- outings;
- A series of activities that transform inputs into outputs by adding value.

Its graphical representation can be done as follows:

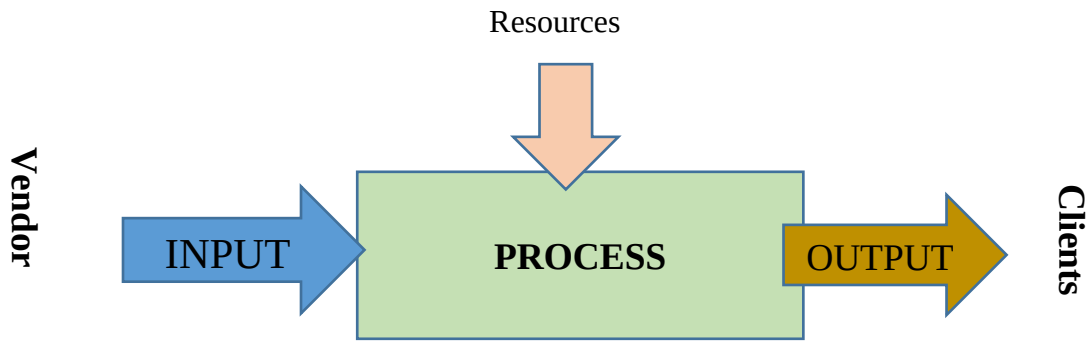

Figure6: The descriptive steps of a process

Each process has an input element and an output element clearly identified beforehand, especially since a customer or a set of customers can be internal or external to the organization. An output element of a process often constitutes the input element of the following process which suggests a meticulousness and a control device of the achievements.

"We use, sometimes wrongly, the words process, process and procedure.

Indeed, these three words lead to confusion since they have a common meaning which is that of "method".

- A process is a method used to obtain the desired result;
- A process is a sequence of operations, and a procedure is a set of rules that must be observed to obtain a given result. »

http://bdl.oqlf.gouv.qc.ca/bdl/gabarit_bdl.asp

b. The typologies of the processes:

There are three main families of processes:

- The production processes (also called operational):concern the major functions linked to the company's "businesses" and contribute to its added value. They are directly linked to the general mission of the company.se.
- Management processes (also called steering process): they make it possible to determine a policy and a strategy for the organization and steering of the actions implemented in order to achieve its objectives. They ensure consistency between the production and support processes.

- The support processes (also called support processes): they allow the implementation of the two aforementioned processes (Management and implementation) under optimal conditions.

Moreover, the processes can be classified according to another typology which is not linked to its functional aspect but rather to its field of activity. We then distinguish:

- "Production" type processes when the product is repetitive. For example: the production of all identical parts;
- "Administrative" type processes when the product is not repetitive, but uses a fixed methodology. For example, invoices, which are all different but edited according to the same rules.
- "Artistic" type processes when the product is not repetitive and does not use a fixed methodology.

c. Characteristics and properties of a process:

► It is cross-functional and calls on different professions;
► It “consumes” and “provides” data;
► It is fed by input data which it transforms into new (output) data by creating added value;
► It interacts with its environment, namely:
▼ The economic environment;
▼ The social environment;
▼ The technological environment.

The NF EN ISO 9001 2015 standard proposes the representation of a process as follows:

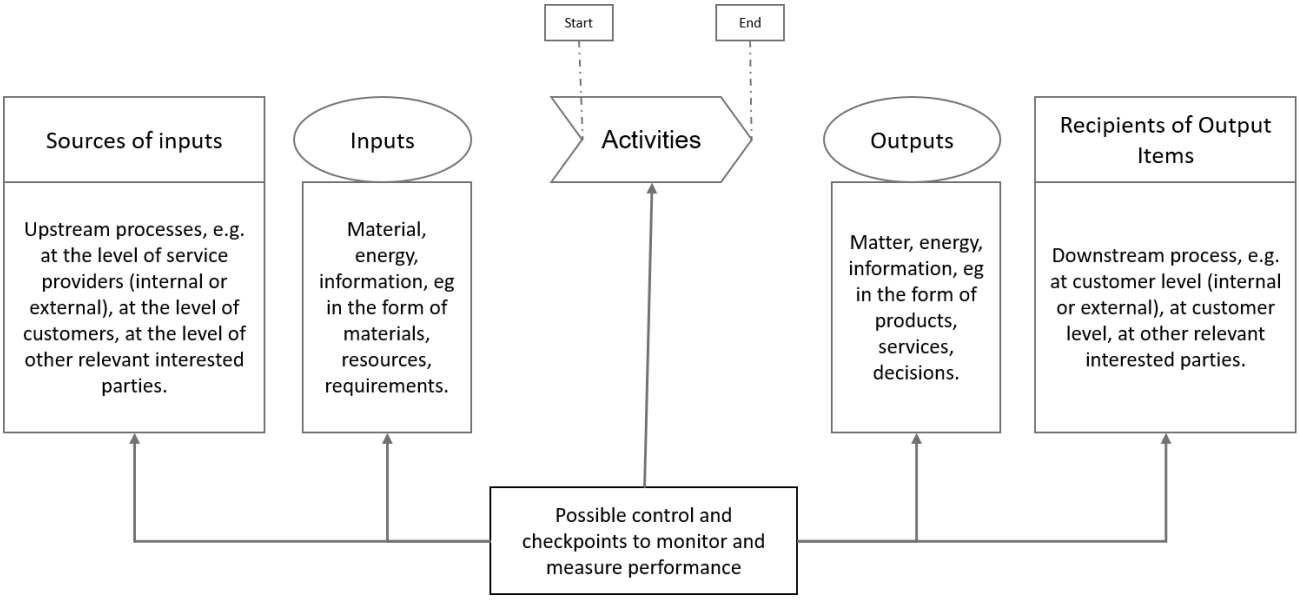

Figure7: Schematic representation of the elements of a process

Like any other concept, the process approach follows the evolution of the technological and socio-economic environment in which the organization is located, by the evolution of standardization and especially by the concept of "social responsibility of organizations".

3. The process reengineering approach:

a. Definition of Process Reengineering:

"Business process reengineering (BPR), is an approach that aims to redesign the company's business processes and make them more efficient".

source :https://en.wikipedia.org/wiki/Business_process_reengineering

b. History of process reengineering

In 1992, based on some impressive successes, Michael Hammer launched the concept of Business Process Reengineering (BPR). This approach has met with success with the management of a few large companies such as IBM Credit or Ford Service.

c. Business Process Reengineering

"The Business Process Reengineering or BPR method is described by Hammer and Champy as "the fundamental questioning and radical redesign of organizational processes, in order to achieve dramatic improvements in current performance on costs, service and speed.

Rather than organizing a company into functional specialties (like production, accounting, marketing, etc.) and looking at the tasks that each function performs, Hammer and Champy recommend that we look at complete processes. From material acquisition, through

production, to marketing and distribution. One should reconstruct society as a series of processes. ".

Source: www.ledicodumarketing.fr/defnitions/Reingenierie-des-Processus-de-Gestion.html

However, a method like Kaizen, which does not fundamentally call into question the existing situation and which resolves dysfunctions on a case-by-case basis, loses its effectiveness in a world where everything is changing faster and faster and where the speed of Adaptation becomes a competitive advantage for organizations.

d. The Kaizen approach:

"This Japanese approach is based on small improvements made on a daily basis. It is a gradual and gentle approach, which contrasts with the more western concept of brutal reform like "throw it all away and start over" or innovation, which is often the result of a process of re-engineering. . On the other hand, kaizen tends to encourage each worker to reflect on their workplace and to propose improvements. So, unlike innovation, kaizen does not require a lot of financial investment, but a strong motivation from all employees. Consequently, more than a management technique, kaizen is a philosophy, a mentality that must be deployed at all levels of the company. " Source :*https://en.wikipedia.org/wiki/Kaizen*

The table below presents a comparison of the characteristics of the two methods and the consequences of their application, According to Stéphane Mathieu, Succeeding in the process approach, AFNOR 2003.

Table6Comparison table of the two Kaizen and BPR methods

	Features		Consequences of the application	
	Step by step improvement	Improvement by rupture	Step by step improvement	Improvement by rupture
Impact	Long-term visible, permanent, non-dramatic	Visible Immediately but maybe dramatic	Few organisms escape the effect of lassitude or routine	The trauma can be important and be the cause of an attitude of rejection on the part of the staff
Pace	Small steps	Steps striking	Does not always match the pace of change needed to stay competitive	The changes are more visible but the wait between two changes gives grain to grind to the opponents
Frequency	keep on going	discontinued	Medium-term planning is often essential to maintain the	Helps avoid fatigue and routine

	Features		Consequences of the application	
	Step by step improvement	Improvement by rupture	Step by step improvement	Improvement by rupture
			consistency of the actions undertaken	
Changes	progressives	Steep	Changes are smooth and accepted naturally	Requires a very significant communication and training effort to avoid blockages
Participation	All	Selective	Develops a sense of belonging the organism	Selectivity creates suspicion and contributes to the phenomenon of rejection
Operating mode	Process improvement existing	Redesign process	Enables the use of improvement methods and tools simple	Uses sometimes complex methods. Their use by a few creates a feeling of exclusion
Exertion level	Minor initial investment but beware sustained	Very initial investment important	Given the low costs incurred on a case-by-case basis, we can lose sight of the overall cost	Only organizations with large means, or in a desperate situation, can afford to use this method

The process approach lies between re-engineering and Kaizen. It brings together the advantages of these two concepts while avoiding their significant drawbacks. This approach must take into account the organization's culture and strategy, so that it can best meet the expectations in terms of its operation.

e. The pillars of reengineering:

The objective of reengineering is to transform the organization so that it becomes responsive with employees

- Empower: make teams more autonomous by bringing decisions closer to the problems to be dealt with;
- Simplify: reduce interfaces, flatten the hierarchical line;
- Train: in order to obtain an agile organization, training is an essential point in reengineering, in order to transmit the key skills to be possessed;
- Communicate: create more exchange within the teams, and more flexibility;
- Develop: workin project modefor the improvement of the new organization put in place.

Business leaders can conduct an entire process re-engineering operation under great pain of failure. These reasons put forward relate on the one hand to the perimeter of impact of the remodeling of the processes, and on the other hand to the authority of the actors.

For this purpose, we examine the 3 famous examples of this process in action:

Case of Google

Google redesigned its recruitment process at the very beginning, after a study found it to be "total rubbish". In a 2013 interview with The New York Times, Laszlo Bock (Vice President of People Operations) said:

“We looked at tens of thousands of interviews and all the people who had participated in the interviews, we found no relationship between their score and their performance on the job. It's a complete, random mess. » New York Times in 2013, Laszlo Bock

For a tech company like Google, the obvious choice is:

By revamping the hiring process, Google has become one of the most efficient companies in the world when it comes to determining the right people to hire. It is synonymous with finding great talent, not asking useless questions.

Taco Bell Case

In 1983, Taco Bell was on the verge of bankruptcy. As a Mexican regional chain worth $500 million, it posted an annual return of -16% before making a significant change in the way it works.

Instead of preparing everything on site from fresh produce, the chain implemented the K-Minus sound program. This actually meant that Taco Bell had removed the kitchen from their restaurants. Hammer and Champy's book on BPR details the process:

“In the new process, the meat, beans, pickles, lettuce, tomatoes and cheese for their products are prepared outside the restaurant, in central commissars. At Taco Bell restaurants, food ingredients are prepared when ordered for the customer's consumption. "

This change followed in the early 80s when Taco Bell was a struggling chain limited to Mexico. Now it has annual revenue of $1.98 billion and serves 2 billion customers a year at 6,407 restaurants around the world, according to Wikipedia.

Ford case

Michael Hammer, co-author of Reengineering the Corporation, offered Ford a drastic way to reduce wasted labor: destroy all invoices.

This is the classic case of moving from paper-based activities to a centralized database. Enterprise Engineering Institute describes the improved process:

“In the new situation, the buyer registers an order in an online database. The buyer no longer sends a copy of the purchase order to the creditors' administration. When the goods arrive at the store, the warehouse worker checks in the database whether the goods received correspond to the purchase order (nb: previously the employee did not receive a copy of the purchase order). If they match, the storekeeper accepts the goods and records the receipt of goods in the computer system. If the warehouse clerk cannot find the supply data in the database, the goods are simply returned.

Source :http://www.ee-institute.com/practical-case-studies/ford

The results of moving from paper invoicing to storing data in a central system have been quite staggering: a 75% reduction in accounts staffsuppliers. These 75% were originally victims of computer job destruction, but also represented the money that can be saved with the drastic wages.

Source :https://www.process.st/business-process-reengineering/

A few points of caution...

Remodeling is not limited to redefining the sequence of activities, but also by reviewing job descriptions, forming new procedures, identifying stakeholders, etc., all these elements are done with the aim of carrying out a comprehensive work covering all facets of the functioning of an organization.

The human factor should not be neglected, an anticipation of resistance to change must be put in place, by providing a real support plan for employees in their new tasks, hence change management, a concept that we are developing. in the next section.

4. Change management:

“The Only Thing That Is Constant Is Change”

Heraclitus

a. Definition :

Change management is the set of techniques, methods and means implemented within an organization to enable it to adapt to changes in the environment. It aims to facilitate the acceptance of the changes brought about by the implementation of a new project and to reduce rejection factors.

"Change is a break between an obsolete existing and a future synonymous with progress". Source: David AUTISSIER, Jean Michel MOUTOT, Change management method, Diagnosis Accompaniment Steering – Dunod, 2007.

Below is the diagram of the change management cycle drawn up by Autissier and Moutot 2003-2007

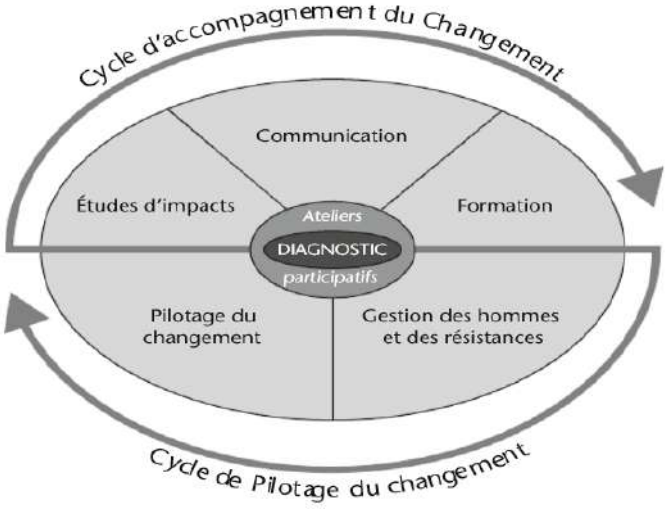

Figure8 Change management cycles (Autissier and Moutot 2003 and 2007)

"Singularity University: "Change or die":

Founded in 2008 by Ray Kurtzweil, philosopher and computer scientist, in a NASA research center in Silicon Valley, Singularity University offers seminars for decision-makers on the theme of "thinking the world of tomorrow".

Because change is increasingly rapid and violent, it is a question of reviewing current ways of thinking in order to understand and build the world of tomorrow. Singularity is a notion that appeared in the 1950s with the work of Von Neumann to signify the tipping point where technology would supplant the human, the day when machines could themselves create other machines. According to the Singularity University, change is no longer a slow phenomenon to which the world gradually adapts, but a way of living in a world in permanent reconfiguration.

For this, our ways of thinking must be part of this dynamic. To illustrate this acceleration of change, Singularity University mentions that IBM took 46 years to have its first billion, compared to 8 years for Google, 5 years for Facebook and 18 months for Groupon. Acting in such an environment requires thinking differently, knowing how to work in collaborative mode, thinking out of the box, etc. »

Source :Agile change: Transforming quickly and sustainably Autissier, David, Moutot, Jean-MichelDUNOD 2015

b. History of change management:

The history of change management is divided into four phases:

"The first phase, which started at the end of the Second World War, made it possible to assimilate the different mechanisms of change, in particular with the group dynamics of Kurt LEWIN, the organizational development of Richard BECKHARD and the logic of actors in Michel CROZIER for companies as well as the management of transitions by William BRIDGES and the bereavement curve by Elisabeth KUBLER-ROSS for individuals.

The second phase did not start until the early 1980s, when companies faced the surprising development of globalization and computer technologies. It is thus possible to consider that the management of change was founded as a discipline through in particular the work of Daryl CONNER on the "Burning Platform", the eight-step approach of John KOTTER, the wheel with ten levers of Rosabeth MOSS KANTER .

From the 2000s, change management entered a third phase with the development of its methods of analysis. In particular, there has been the development of specialized consulting firms, the deployment of Prosci with its ADKAR model (Awareness, Desire, Knowledge, Ability, Reinforcement), the creation of the ACMP (Association of Change Management Professionals) and the start works by David AUTISSIER and Jean-Michel MOUTOT.

The fourth phase, which began with the beginning of the 2000s, is determined through a set of actions by companies to establish and strengthen their internal capacities to lead change. This is how change management frameworks have been developed, the consideration of change management elements within projects and the professionalization of the function through the certification of their employees. Source: Chronicle by D. Meingan, Knowledge Consult 2014 JDN.

c. The change management process:

The implementation of a change management process makes it possible to anticipate risks. It consists of implementing a solution under ideal conditions.

Change management methods are generally based on three main actions:

- **Involve**: integrating users from the start of the project, in order to take their opinions into account;
- **Form**: set up a training support plan and check that users have acquired basic theoretical and practical knowledge;
- **Communicate**: implement a communication plan to enable the company's employees to stay informed throughout the project and get them to adhere to the various changes.

d. Interests for the company:

Change management is a necessity for the company. It has become essential to the success of the project and to the implementation of the organization's development strategy. This makes it possible to obtain the results of the desired transformations in a favorable climate, and often in a short time.

e. Interests for employees:

The interest for the employee is more palpable: through the attention given to them, they can participate favorably in developing the project, and at the same time experience the transformation situation in a positive way.

f. Objectives of change management:

All the methods, techniques and means implemented to support a transformation under optimal conditions for success, have as their objective the rapid achievement of the results expected by the company. According to the two authors MOUTOT and AUTISSIER, the objectives of change management are:

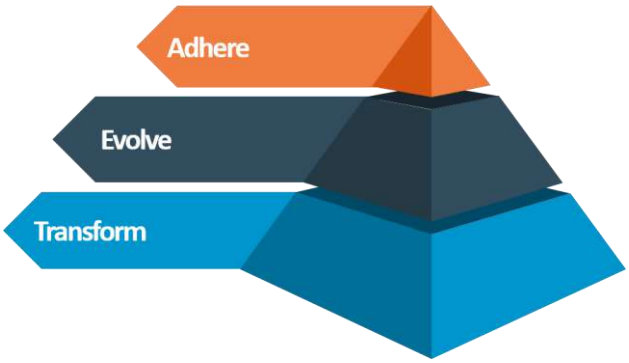

Figure9: The three goals of change

- **Buy-in from key players**of a project: From the outset, it is necessary to ensure the support of the actors who will have a central role to play in the change process, and to

offer them communication, training and support plans, so that they carry out the proposed project as well as possible.

- **The transformation**: When a person participates in a project, he tries to construct a diagnosis of the existing situation, while considering innovative solutions and practices. This is marked by changes in processes, structures, practices and skills. This work of transformation takes the form of projects during which people are supposed to carry out an action, explain it, carry it out and ensure its implementation.
- **Evolution**: The evolution is a medium and long term consequence of the transformation stage. The main actors in the project implement changes that will create a new way of working and thinking, with the aim of achieving multi-level results in a change project.

After having presented some notions relating to the concept of change management, this approach requires a strategy based on strong communication which has become increasingly digital.

5. Digitalization and digital transformation:

a. Definition of Digitalization:

It designates the changes linked to the integration of digital technology in human society and is based on several major pillars: mobility, real time, the Internet of Things, big data and the universality of the Internet.

Digital began at the beginning of the Internet: mail was replaced by emails, stores by e-commerce sites, trade fairs by web forums, etc.

Today we are experiencing a broader and more efficient digitization, it has become a natural phenomenon that merges the appearance of the Internet and daily computer advances.

Indeed, digital allows companies to maintain commercial agility by offering new innovative products and to increase value-creating industrial flexibility to face all forms of competition.

b. Definition of Digital Transformation:

Digital transformation is defined by the author Océane MIGNOT as "The integration of digital technology in all sectors of a company to change the way it works and offers value to its customers.".

Source: The Digital Transformation of companies: Principles, examples, implementation and social impact Mignot, Océane 2019 Publisher: Maxima

Some figures according to the Gartner Survey:

- Morocco is in the top 10 in Africa in terms of digital development, Source: Infographic based on the results published following the latest survey on ICT in Morocco by the ANRT;
- 54.7% of 12-65 year olds have at least one smartphone, which makes the population equivalent of 13.5 million Moroccans, Source: Infographics based on the results published following the latest ANRT survey on ICT in Morocco;
- 88% of decision-makers see digital transformation as a major challenge, Source: EY and BBG study January 2019;
- 89% want to improve their reports and dashboards by integrating data visualization, Source: DAF Magazine, January 2019.

c. Digital transformation in the industrial environment:

"In their book, The Second Machine Age (WW Norton & Company, 2014), Erik Brynjolfsson and Andrew McAfee, researchers at MIT, compare the digital revolution (which they call digital) to the industrial revolution of the XIX century. For the latter, the industrial revolution, through the invention of machines producing motive power, enabled man to free himself from the physiological limits of his productive power. The digital revolution, embodied by the generalization of info-telecommunications (coupling of computing and telecommunications), is in the process of offering machines with computational and combinatorial capacities allowing increasing automation of all information and transactional. " Source :***Agile change: Transforming quickly and sustainably Autissier, DavidDUNOD 2015.***

Indeed, the appearance of platforms and social networks that are disrupting the way we share information and consume it, has given rise to digital transformation. Thisterm which is not very old, used in France became popular at the beginning of 2014, despite the fact that digitization is older.

"Consider the following examples of companies that have experienced digital transformation:

- Société Générale, which since 2013 has understood the importance of digital transformation, has defined its priorities and implemented three major projects:
    - Imagine the bank of tomorrow with a co-creation approach by involving employees via their corporate social network;

  - Implementation of office automation tools for employees (Digital for All program);
  - HR: attractiveness for recruitment, work environment, employee training.

- Starbucks' digital transformation was based on 3 pillars:
  - Create user engagement;
  - Offer a physical and digital experience;
  - Putting digital at the heart of your system.

- **Air France** has based its digital transformation on 3 levers:
  - Centralization;
  - The corporate culture;
  - Innovation. »

Source: https://www.digitall-conseil.fr/definition-transformation-digitale

The digital to **OCP Group is a value creation lever at the heart of the Group's Strategy**

- A new mindset and new agile ways of operating;
- Close collaboration linking the entire process;
- Industry 4.0;
- Performance management, integrated Supply Chain;
- New services to customers and farmers;
- New employee experience.

Source :https://www.ocpgroup.ma/fr/notre-strategie/la-transformation-digitale-du-groupe

The digital transformation has marked a significant change in the economy. Industrial companies today are forced to integrate new technologies to adapt to the current market. The automotive and electronics industries are already among the pioneers when it comes to digitalization.

This transformation concerns the digitization of industrial processes from end to end of the chain and the provision of a centralized information system, to have at all times a knowledge base and shared resources and this can concern all company services.

d. The challenges of digital transformation for industry:

"We quote a few challenges of digital transformation:

- The creation of a vision in a unitary way and definition of objects for companies;

- The integration of IT tools in the company (software solutions such as ERP, CRM and ECM);
- Regular staff training to ensure the necessary skills and qualifications for digital equipment;
- The introduction of a new project organization and more freedom in management for successful digitization. »

Source :https://www.usinenouvelle.com/article/la-digitalisation-de-l-industrie.N830865

e. Agility in digital transformation:

"Organizations do not change, people do"

Steve Vamos, former Microsoft and Apple executive.

"The principle of the agile method aims to place the product at the center of the reflection, by involving the customer throughout the development of the project. Based more on collaboration, it relies on an empirical approach that leads to a better understanding of needs. Farewell to the tunnel effect, and make way for an iterative method that allows you to be reactive, to test the validity of the project as it progresses while readjusting its development if necessary according to feedback.

Seen through the prism of digital transformation, agility is a tool of great value, because it allows you to instil a state of mind and a real culture of change.

By drawing inspiration from the agile method, it is possible to deploy a transformation without necessarily deconstructing everything, but rather by working on certain pilot projects in "test-and-learn" mode, involving employees and customers. A way to decompartmentalize communication, break down silos and work in a network to promote the expression of innovative ideas. »

Source: https://blog.talkspirit.com/abecedaire-de-transformation-digitale-a-agilite/

Chapter III:

Methodological approach :

Through the previous part, we tried to define the terms related to process reengineering. This literature review has therefore enabled us to present the theme of the present study, which will be based on a modeling of the processes in order to make them more flexible and efficient.

1. Research objectives:

- Highlight the tasks performed by each of the actors throughout the value chain;
- Describe each of these tasks to allow us to quantitatively and qualitatively assess the efforts made and the shortcomings encountered by each of the actors;
- Diagnose the current state of the process that governs the Purchasing function, after mapping the existing practice;
- Identify anomalies that appear during the course of the process;
- Provide an action plan likely to correct and improve current procedures;

This thesis focuses on the need to rethink the business process of the Purchasing profession and its remodeling, and this, in an efficient, sustainable and flexible approach to accommodate future developments.

2. Research questions:

In order to deal with this problem and achieve the aforementioned objectives, it is necessary to answer a number of questions that we have asked ourselves:

- What are the prerequisites for adopting a digital transformation approach?
- In what cases should digitization be applied to the Purchasing profession?
- Do current procedures allow for digital evolution?
- What efforts should be made before and after a transformation to ensure its sustainability?
- What attitude should the project team have to reduce resistance to change?

3. Research methods:

Any project approach requires an analysis of the situation beforehand in order to define the needs and expectations of the project, and this through investigation methods which are presented as research tools involving great rigor in their design and their gait.

We have opted for a field method that focuses on observation and direct contact with the employees involved throughout the value chain of the purchasing process within the

company's headquarters, with a view to better understanding their constraints. and draw the necessary conclusions to propose an optimal overhaul of said process.

4. Target population :

The target population for this study is any stakeholder in the process, namely: the project manager, the buyer, the technical controller, the supplier, finance and the supplier.

5. Study value:

Any process inevitably generates more non-value-added activities than value-added activities. The challenge in this study is to review the path of the process by focusing on the elimination of non-value-added steps when possible or at least the reduction of their impact on deadlines while optimizing value-added activities. . All this in view of the constraints, new requirements and malfunctions identified and analyzed.

Second part

Chapter I:

Description of the Purchasing function process

The purchases of the various equipment or the commitment of the services within the Purchasing department are generally carried out via Open Call for Application, Restricted Call for Application, over the counter or on contradictory quotes, and this according to the type, the budget estimate or the urgency and criticality of the need.

In our descriptive study, we will focus on the common and most used method for the majority of needs, namely open calls for application.

The process that we describe below defines the progress of the purchase from the expression of the need to the performance of the service and the payment of supplier invoices. The management rules for this process are presented step by step as follows:

1. Project planning and budgeting:

At the end of each budget year, the finance entity (Management Control) invites all of the company's entities to propose budget estimates based on the projects planned for year y+1.

At the level of each business entity, a PMO (Project Management Officer), takes care of the consolidation of the projects planned by his entity, the validation of the estimated budgets with the stakeholders, through exchanges of emails and Excel tables.

Once the projects and budgets have been frozen and validated by the hierarchy of project managers, the PMO communicates the final summary to the management control entity.

2. Expression of need:

For each purchasing operation, the Project Manager is an essential actor who must be clearly defined.

For purchases of consumables, the project manager is also a supplier. For other types of purchases, the project manager is someone from the business line who must be named.

The project manager expresses his need and formalizes it in detailed specifications. The TECHNICAL SPECIFICATION FILE (TSF) can be drafted either by the PM (Project Manager) himself or, if necessary, he calls on a design office to support him during this phase.

He makes a financial estimate of the budget necessary for the realization of his purchasing operation, then he prepares the pre-qualification or pre-selection grid[1]providers.

The PM prepares a scope of work (a project brief) and attaches it to the pre-qualification grid (PQG) before sending these two signed documents to the technical controller for the review and validation of these documents. These are then communicated to the buyer for the launch of the Call for Expression of Interest (CEI). In some cases, buyers require submission of a requisition signed by the project stakeholders.

3. The Call for Expression of Interest:

The buyer at this stage verifies the documents provided by the PM, and proceeds to configure the Call for Expression of Interest on the procurement portal. During this phase, any company has the opportunity to express its interest in the published opportunity. This CEI is locked by a response deadline, (usually 3 weeks). Once the buyer receives a minimum of 3 offers on the due date, he proceeds with the PM to open the files submitted by the suppliers on the portal and which are automatically pre-selected initially, on the basis of management rules preconfigured on the system.

The administrative files of each supplier are analyzed by a PCM (Purchasing Category Manager) for the selection of companies. The PCM proceeds to:

- Verification of the conformity of documents;
- Verification of supplier compliance with the requirements of the supplier pre-selection grid;
- Analysis of supplier risks (financial, legal, HSE, etc.) using available data (supplier data, data provided by external organizations specialized in the field, etc.).

After examining the offers, the PCM sends to the buyer and the project manager a report containing the list of suppliers who have complied with the criteria set in the CEI.

In the meantime, the Project Manager prepares the rest of the documents, namely the Technical Specification File, the BBG (Best Bidder Grid),and the PR (Purchasing Request). The buyer presents the list of suppliers chosen by the PCM, and evaluated on the basis of the BBG to the MCAC (Management of Calls for Application Committee). This commission consists of the buyer, the PCM, the PM, the Technical Controller and the hierarchy of the PM

[1]It is a grid containing the criteria to be required according to the type of purchases, in terms of financial capacity, the experiences of the tenderers in similar projects, the profile of the staff dedicated to the project and other criteria appropriate to the nature of the the service requested

who chairs this MCAC. The latter signs a report listing the suppliers capable of bidding for the Call for Application based on the result of the counting carried out by the PCM.

4. Call for application :

During this phase the buyer prepares the Call for Application file composed of the following elements:

- The final version of the Technical Specification File,
- The summary of the admissibility criteria
- The contract model (model requested from the Legal entity or use of a contract model already used in a similar the project).

The buyer configures the aforementioned documents on the platform and proceeds to the publication of the Call for Application to the pre-selected suppliers, while setting a deadline for the submission of offers. Any exchange between the project team and the suppliers is done exclusively via the Purchasing platform.

5. Opening of supplier offers:

Suppliers publish their answers on the portal dedicated to this purpose. Once the deadline for submission of offers has expired, the opening of technical and commercial offers is done according to the following steps:

- The PM and the technical support proceed to the opening of the technical offers;
- The PM and the technical support analyze the technical offers on the basis of the grid of technical choices defined beforehand;
- The PM has the possibility of asking directly or through the buyer for technical supplements for clarification. If these clarifications call into question the financial offers, the suppliers can update their offers on the portal;
- The PM and the Buyer proceed to the opening of the financial offers;
- The Buyer evaluates the financial offers and manually prepares a summary file for the holding of the Tender Committee (TC).
- For the preparation of the minutes of the TC, the buyer finds himself obliged to manually enter all the lines of the price schedules in order to compare them;

6. Award:

The buyer organizes the TC composed of the same members of the Management of Calls for Application Committee (MCAC). The role of this committee is to validate the tender proposal or to declare the file unsuccessful in the event of non-compliance by all the bidders. Based on the minutes of the TC, Management Control establishes the AE (the commitment notice) and sends it to the PM for signature. The PM in turn must pass it on to the buyer for preparation of the order on the system.

7. Contracting:

At the buyer's request, the legal entity appoints a legal officer to launch the contracting process. The buyer proposes a model contract, he then shares it with the project manager and the legal officer for adaptation to the context of the contract awarded. After several exchanges of emails and several modified versions, the three parties agree on the version of the contract that will be shared with the successful bidder so that he can make his comments. This contract is finally signed and the contract can be executed after the signature of the service order by the PM and the contractor.

8. The execution of the contract:

As soon as the service order is signed, the company proceeds with the execution of the project in accordance with the contractual terms and the guidelines of the project manager. Each project manager has his own means (formal or non-formal) which allow him to monitor the performance of the contract. At each payment due date according to the terms of payment, the project manager validates the attachment which lists all the services performed. This document allows the company to submit its invoice for payment.

9. Billing:

After depositing the invoice and the corresponding validated attachment by the supplier, the accountant looks for the signed version of the contract on the e-purchase platform or asks the buyer to provide him with a copy. Then, the project manager, in addition to the attachment that he has validated and signed, must also declare receipt of the invoiced service on the ERP through a receipt movement that he must share with accounting. The accountant reconciles the invoice with the contract to validate the invoice and send it to accounting for payment (invoicing is a specific process not covered by this study).

Chapter II:

Modeling of current practice related to purchases, analysis and criticism of anomalies

1. Modeling of current purchasing practice

a. Project planning, budgeting and expression of need

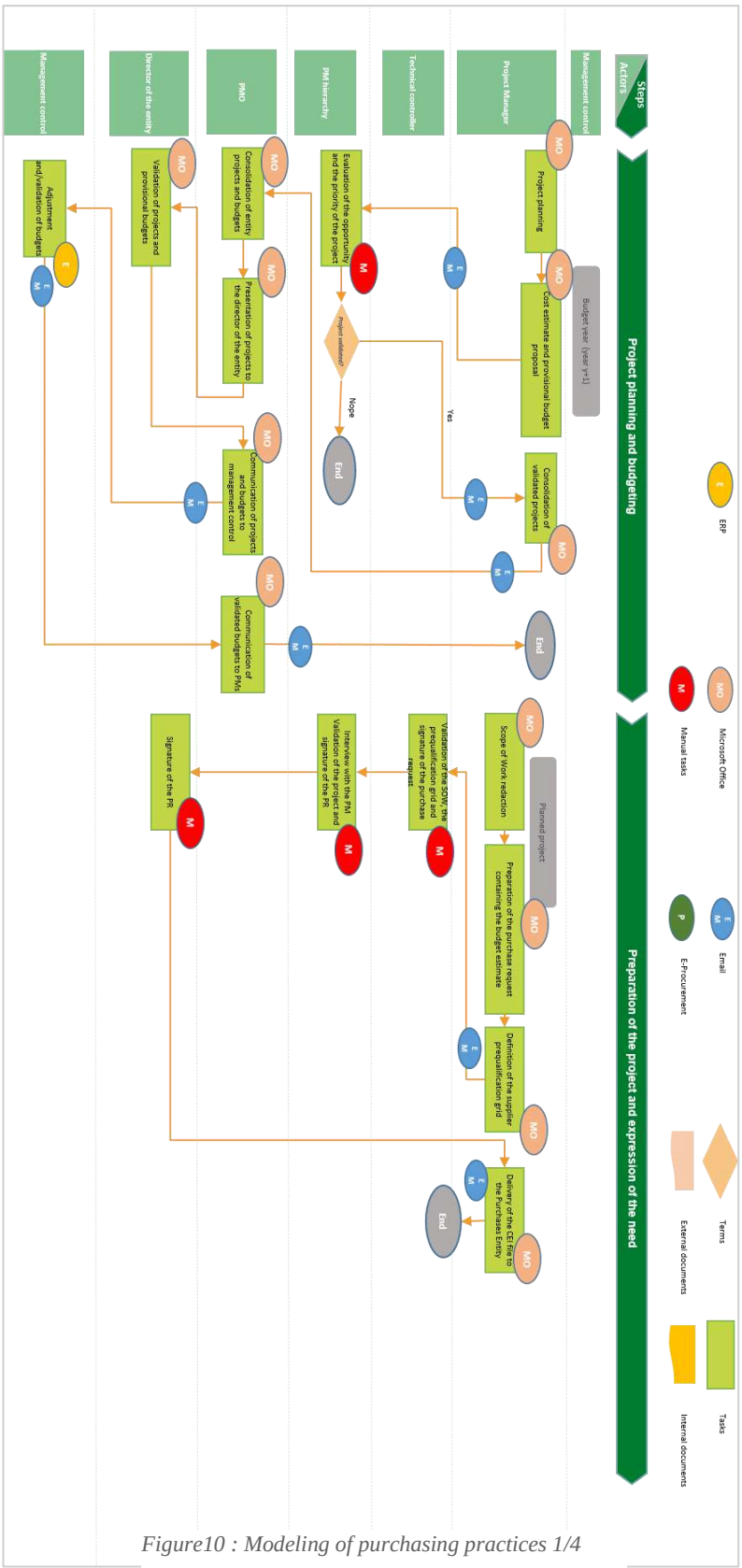

Figure10 : Modeling of purchasing practices 1/4

b. Call for expression of interest and call for application

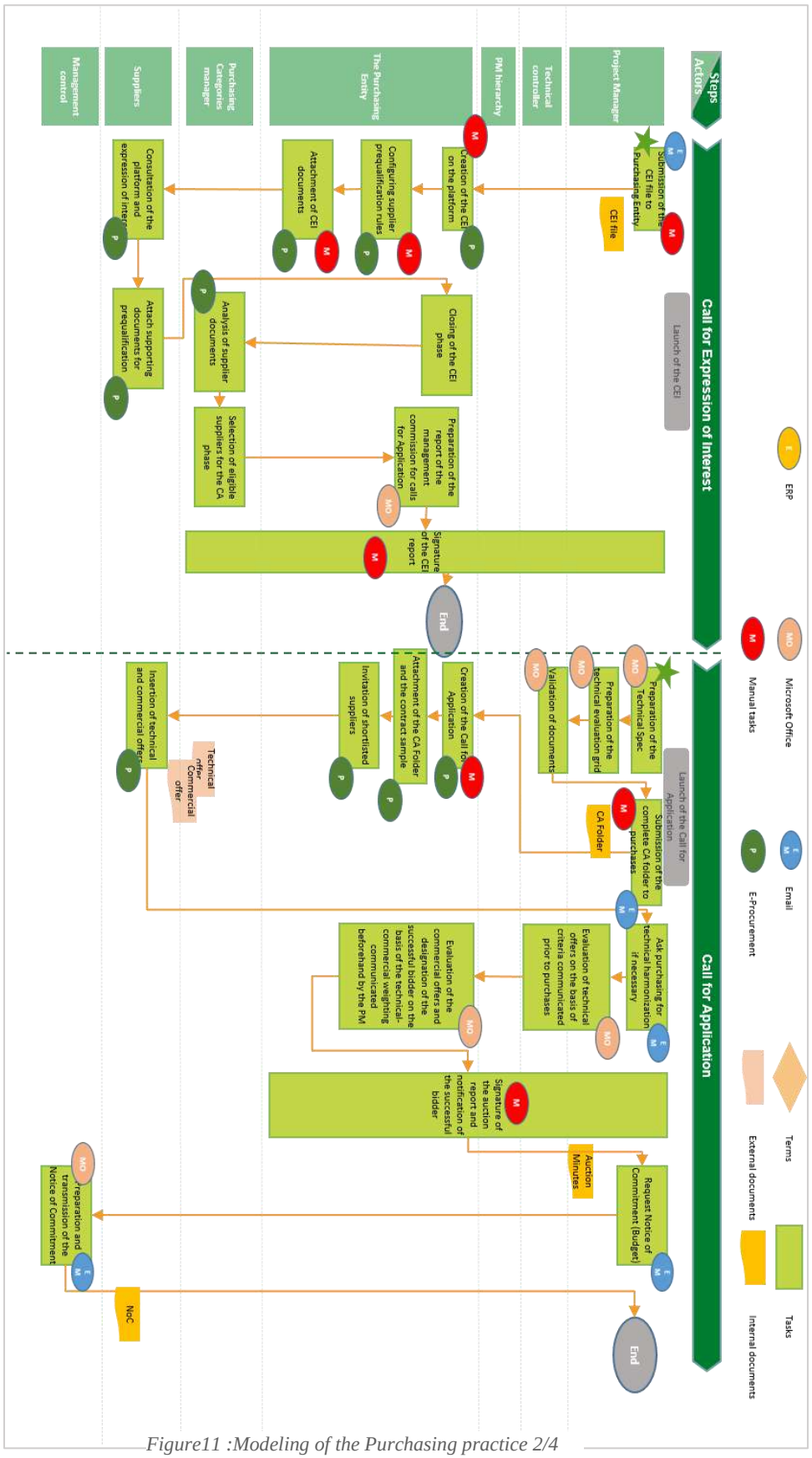

Figure11 :Modeling of the Purchasing practice 2/4

c. Contracting and validation of the service order:

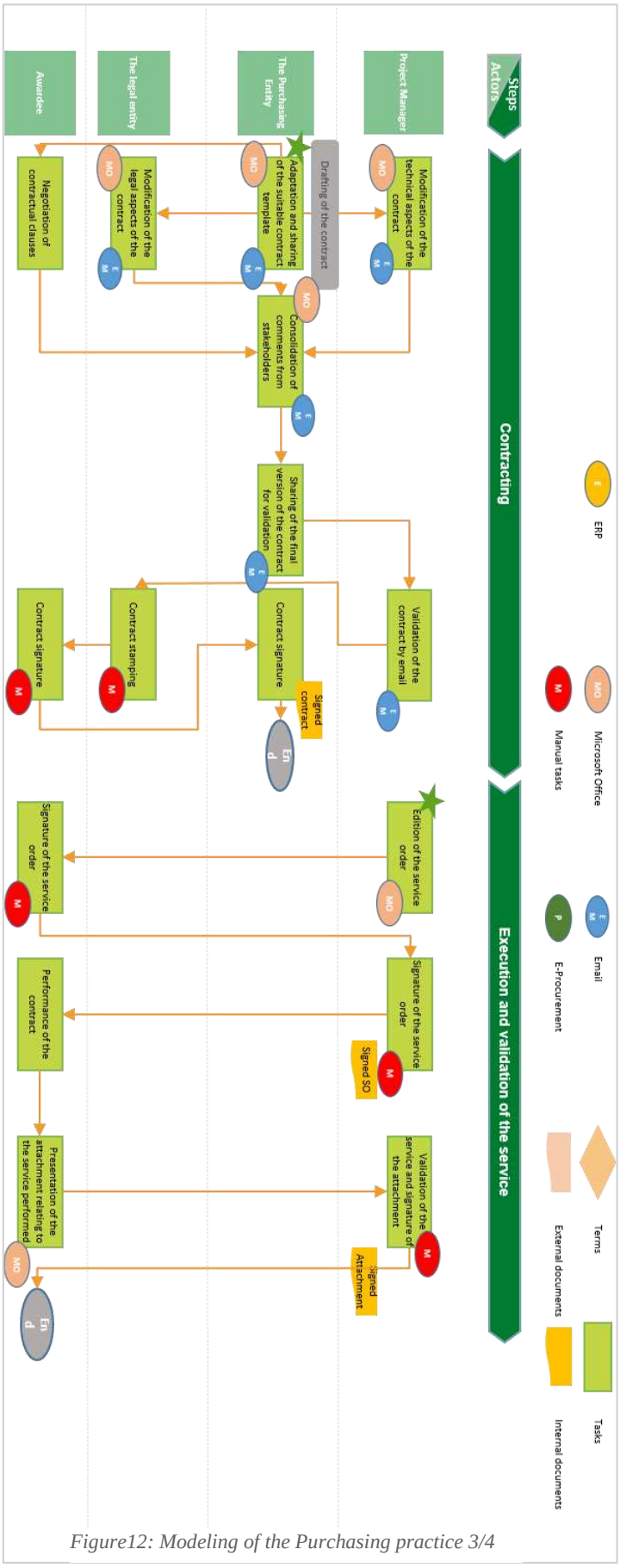

Figure12: Modeling of the Purchasing practice 3/4

d. Billing

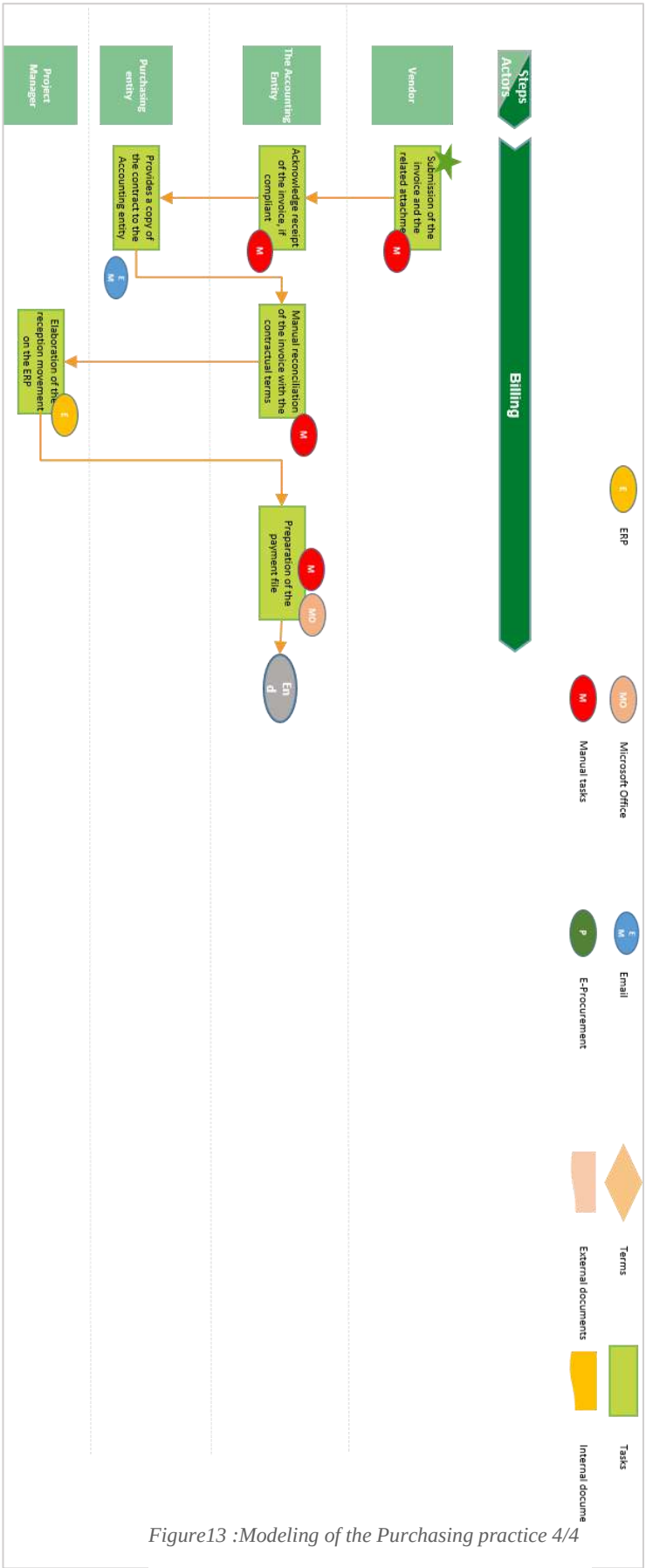

Figure13 :Modeling of the Purchasing practice 4/4

e. IT solutions deployed:

Figure14: IT solutions deployed in the existing process

2. Table of anomalies and their quantitative and qualitative impacts:

Previously, we modeled the practice of purchasing within the host organization, although it already has a procedure which is supposed to govern this practice and regulate it, but which is not applied because it represents several anomalies.

For the purposes of this study, and given that the Purchasing procedure does not take into account all the actions that relate to the business, we have opted for a comparison between the practice and the procedure in order to highlight the anomalies that will be dealt with. in the next parts of the thesis.

This chapter will allow us to answer the research question: "Do the current procedures allow a digital evolution? »

Task ID	Stages	Anomalies	Types of anomalies	Quantitative impact	Qualitative impact
1.1	1 - Project planning and budgeting	The media used for project planning and budget forecasts are in the form of an Excel table, and each modification is the subject of a separate email with a new version of the table.	Procedural anomaly and technological defect	3 to 4 weeks for the consolidation of the provisional budgets taking into account the various modifications of the PM	Multitude of versions dispatched on several emails --> data integrity problem and risk of error at the time of consolidation
1.2	1 - Project planning and budgeting	Unsubstantiated budget estimates	Knowledge Management	PM needs a few days to get the estimated amounts for their projects	Risk of error in estimating the budget to be provided for the project.
1.3	1 - Project planning and budgeting	After validation of the budgets by the management control, the project managers lose visibility on the	Procedural anomaly and technological defect	Each project manager must wait an average of 1 to 2 days to obtain information	Controlling employees are inundated with requests for budget information

Task ID	Stages	Anomalies	Types of anomalies	Quantitative impact	Qualitative impact
		evolution of the consumption of these budgets		concerning the budget	
1.4	1 - Project planning and budgeting	Manual entry of budget lines on the ERP	IT solution integration issues	1 week on average for manual entry of budgets	Risk of input error
2.1	2 -Expression of the need	Drafting of specifications for projects similar to those carried out in the past	Knowledge Management	1 week on average for the drafting of the specifications	Heavy workload and risk of redundancy of errors made in similar projects
2.2	2 -Expression of the need	Lack of collaborative work tools between the project manager, the technical controller and the buyer	Technological defect	1 to 2 weeks between the creation of the CEI file, its validation by the technical controller, and its communication to the buyer	Collaboration is not optimized. In some cases the technical controller does not have enough time to review the CEI file in detail before its validation
2.3	2 -Expression of the need	For emergency constraints, and in the absence of an electronic signature tool, the purchase request is slow to be signed and the buyer is obliged to go to the CEI stage without a signed PR	Procedural anomaly and technological defect	2 to 3 days on average for the signature of the PR	Project dependency on PR validators and signatories who may not be available
3.1	3 -Call for Expression of Interest	Manual configuration of the CEI on the system and manual import of documents	Technological defect	Uncontrolled deadlines for the launch of the CEI	Risk of input error or erroneous

Task ID	Stages	Anomalies	Types of anomalies	Quantitative impact	Qualitative impact
					import of documents
3.2	3 -Call for Expression of Interest	In some cases, the PM is obliged to contact the companies to participate in the CEI	Procedural anomaly and technological defect (Supplier segmentation)	Extended deadlines for the CEI phase resulting in significant project delays	Quality of suppliers not controlled
3.3	3 -Call for Expression of Interest	Manual creation of the Management of Calls for Application Committee (MCAC) report and need to sign the physical document	Procedural anomaly and technological defect	2 to 3 additional days for the creation of the MCAC report and its signature by the stakeholders	Additional workload for the creation of the report and the MCAC minutes around the data already computerized
4.1	4 – Call for Application	Manual collaboration between the PM and the technical controller for the development of the call for application file (Mails, Several versions of electronic documents)	Technological defect	Deadlines not controlled for the validation of the call for application file	Several versions of documents on different emails -> data integrity and reliability
5.1	5 -Technical-commercial evaluation	Manual collaboration between the PM and the technical controller for the technical evaluation of the offers, absence of a collaborative workspace	Technological defect	Uncontrolled deadlines for the technical evaluation	Dependence of the technical assessment on the physical presence of the project manager and the technical controller

Task ID	Stages	Anomalies	Types of anomalies	Quantitative impact	Qualitative impact
5.2	5 -Technical-commercial evaluation	Manual entry of price schedules for the preparation of the auction report by the buyer	IT solution integration issues	Deadlines not controlled for the preparation of the Auction report (depending on the size of the price schedule)	Tedious task and significant risk of error in entering numbers
6.1	6 - Award	Amount awarded exceeds project budget	Procedural anomaly	2 to 3 days on average to request a budget transfer	Risk of delay or cancellation of the project in the event of non-availability of the budget. Frustration of suppliers participating in the CA
6.2	6 - Award	Sending by email the Notice of commitment, printing, signature, scan then return of the signed AE for approval on the ERP	IT solution integration issues	1-2 days for notice of commitment approval	Tedious tasks for budget approval
6.3	6 - Award	Manual signing of the auction report	Technological defect	1 to 2 days for the signature of the auction report	Task dependent on the presence and availability of stakeholders
7.1	7 -Contracting	Lack of up-to-date contract	Technological defect	3 to 4 days for the designation of the lawyer and the proposal of a model contract	Poor choice of contract and use of a model contract that is difficult to adapt to the context of the award

Task ID	Stages	Anomalies	Types of anomalies	Quantitative impact	Qualitative impact
7.2	7 -Contracting	Manual collaboration between the PM, the lawyer and the buyer for the creation of a final version of the contract	IT solution integration issues	1 to 2 weeks for the preparation of the contract	Multitude of versions of the contract dispatched over several emails --> data integrity problem and risk of error when consolidating the various suggestions
8.1	8 - Execution of the Contract	Absence of a tool for monitoring the execution of the contract by the PM	Technological defect	Deadlines not controlled for the validation of project milestones	Poor project management
9.1	9 - Invoicing	Use of an attachment to the invoice different from that corresponding to the price schedules	Procedural anomaly and technological defect	Delay in payment of the invoice	Rejection of the invoice --> frustration and dissatisfaction of the supplier
9.2	9 - Invoicing	Difficulty reconciling the billing file	IT solution integration issues	Deadlines not controlled for the validation of the invoice	Tedious work for the accountant

Table7 :Table of anomalies and their quantitative and qualitative impacts

3. Summary of the average delay time caused by non-value added tasks:

Task ID	Average delay in weeks	Average cumulative delay in weeks
1.1	3	3
1.2	1	4
1.3	0.4	4.4
1.4	1	5.4
2.1	1	6.4
2.2	2	8.4
2.3	0.6	9
3.1	0.5	9.5
3.3	0.2	9.7
6.1	0.6	10.3
6.2	0.4	10.7
6.3	0.4	11.1
7.1	0.8	11.9
7.2	2	13.9
9.2	1	14.9

Table8Summary of time spent on tasks (in weeks)

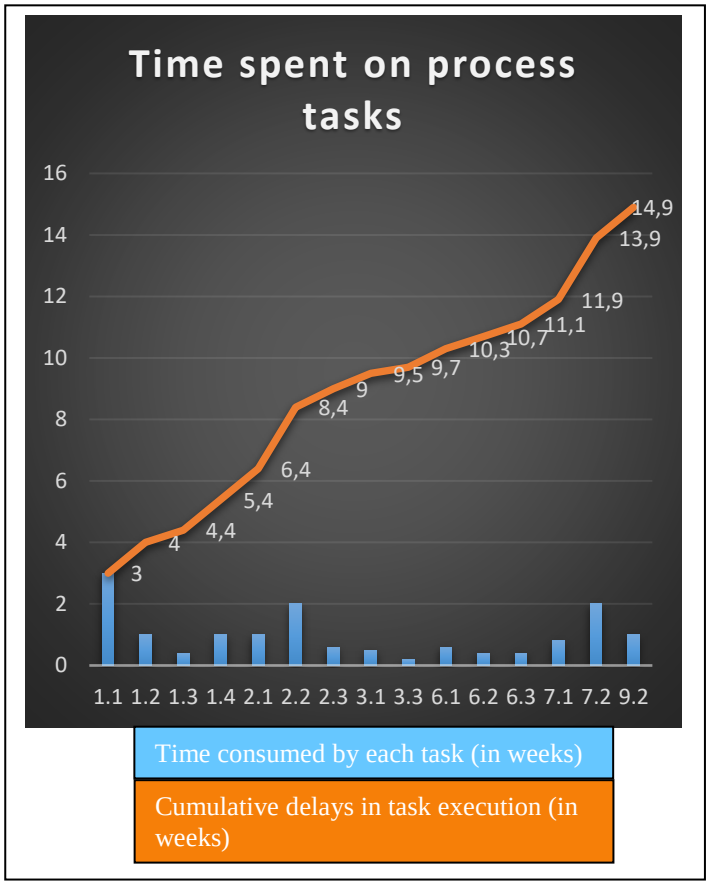

Figure15 : Graph representing the duration spent on the tasks of the process

After having carried out the inventory of all the Purchasing process, we highlighted the deadlines consumed for each of the tasks of each sub-process, we note that the process of a single project consumes approximately 14.9 weeks the stages which consume the most time-consuming are mainly 1.1 (Project planning and budgeting), 2.2 (expression of need) and 7.2 (contracting).

4. Critique of current purchasing practice/procedure:

The digital evolution is linked to a large number of conditions, without which the company cannot reach a great maturity of digitalization.

This digitization is not limited to process modeling and the dematerialization of documents and procedures. It requires redesigning them in their entirety, improving the interactions between the different software, solutions and ERP, optimizing the functioning of the entire organization, allowing fluidity of exchanges and continually adapting to changes in markets and technologies. .

In order to better understand these anomalies, we carried out a brainstorming session with the various stakeholders. This operation allowed us to detect several blockages that we classify under the following main headings:

The complexity and lack of clarity of procedures:

- A significant number of steps and complexities, subject to different interpretations;
- The buyer is not involved upstream of the expression of the need and at the time of the planning;
- Absence of working meetings for the identification and analysis of needs;

The procedures do not follow the digital evolution:

The digitization of procedures has not taken into account the rapid evolution of technology. Today we find ourselves with a multitude of platforms that are not integrated, which causes great slowness in terms of communication, moreover, traceability is dispersed and in most cases is not reliable.

The non-availability of collaborative platforms leads to project incoherence, information insecurity, a lack of transparency, decentralization of tools, a lack of agility and, even more, poor time and productivity management.

Despite the digitization of part of the process, the current procedure still contains cumbersomeness at the level of a few phases, where the stakeholders are forced to demand original documents, such as the expression of need file, or the minutes of the commissions or even notices of commitments, etc., and this is linked in some way to the non-digitalization of signatures as well and to the establishment of several hierarchical validations which are not taken into account in the solutions deployed.

The contract aspect is also among the tasks that do not follow the digital transformation. Currently, the buyer himself selects a model contract based on previous contracts to launch the Call for Tenders, and wastes considerable time managing this same contract in the adjudication phase, several exchanges and reserves between the buyer, the lawyer, the supplier and the PM. No centralized electronic contract management tool is available. The current practice does not offer much traceability and penalizes the productivity of teams who spend considerable time in administrative management and monitoring tasks. In addition, due to a lack of control over the expiry and renewal dates of certain contracts, the company is exposed to significant risks.

Lack of training, awareness and support

The various participants in the process are not initiated into the procedures, which causes a misunderstanding of the procedures and this affects all phases, from the expression of need to the payment of supplier invoices.

In some cases, we find some practices outside the procedures, for example, the buyer finds himself obliged to carry out the task of the PM. He establishes the pre-qualification grid and the technical choice grid instead of the PM.

In other cases, the PM relies on a previous file that does not necessarily resemble its needs, to establish the Technical Specification File (TSF) and other documents. We then find ourselves with a TSF of poor quality, which leads to several round trips between the various stakeholders and this has a huge influence on the deadlines allocated to each need, and even more on the target suppliers and the quality of the call for application.

For lack of awareness and rigidity of the procedure, the PM does not automatically create its purchase request on the ERP dedicated to this purpose at the time of the expression of need, but it creates it during the call for application which affects the delays.

This creation of PR , which is supposed to include all the lines of the price schedule on the ERP, generally contains instead a single line describing the project, which poses a blockage at the level of the commercial phase where the buyer is forced to enter all the lines of the price schedules thus generating a consequent delay and an enormous risk of errors.

In addition, this lack of support from stakeholders leaves the PMs very limited in the use of the purchasing platform and in many cases they ask the buyer to send them the offers by email or to exchange directly with the suppliers. On the technical aspects of the CA file, which pushes the buyer to intervene outside his scope and can lead to misunderstanding towards the supplier since the exchanges generally revolve around requests for clarifications or technical additions, not to mention the time consumed in this harmonization since it must go through the buyer to be transmitted to the project manager and vice versa.

Organizational dysfunction:

- Slowness for the validation of the budget: the PM is obliged to go through several stages for consultation and validation of its budget, which is not easily accessible.
- Several PMs do not have an e-purchasing nor ERP account, which blocks the buyer for the PM's involvement in the file, especially at the level of openings and technical harmonization, which leads to a lot of delay.

- No organizational locking for the validation of requests for agreement to launch call for application by mutual agreement, on contradictory quotes or restricted call for application, whereas these types of call for application are made only in the event of urgency, exclusivity or file to low financial value.

Lack of traceability and technical blockages:

Several oral and written exchanges between the PM and the buyer to adjust the expression of need This is due to the absence of an ECM (Entreprise Content Management) which can manage the content and the collaboration between the different parties, thus keeping traceability and saving stakeholders waste of time.

Third part

Chapter I:

Exploiting the advantages of digital to improve purchasing practice

In this part we try to answer the following two questions “What are the efforts to be undertaken before and after a transformation to ensure its sustainability? »

And “What are the prerequisites for adopting a digital transformation approach? »

In the perspective of adopting an effective digital transformation for the Purchasing business, it is necessary to not limit oneself only to the Purchasing process, namely the circuit which is triggered by the reception of the need and ends with the contracting and the reception of the service.

The solution to be applied must take into consideration all the actions that are carried out upstream and downstream of the purchasing process, and which sometimes do not involve purchasing employees but impact them and affect the efficiency of the process and its efficiency.

In this sense, the previous chapters talk about the budget planning that is done prior to the Purchasing process and the invoicing that represents the transactions that follow this same process.

1. Choice of solutions

In order to better meet the needs of the purchasing process in terms of technology, we have opted for solutions, some of which have already been deployed on other projects at the host organization, and which will be integrated with the solutions used so far. there, namely MS Office, Outlook, E-procurement and ERP. These solutions are as follows:

a. ECM solution for content management:

Taking into account that most of the anomalies encountered during this study in relation to the purchasing process are closely linked to poor content management, we propose as a solution an ECM (Entreprise Content Management) tool to play the role of a management hub for Information and documentation. Indeed, in certain stages of the process, this solution will be dedicated to consolidating the work carried out by the entities involved, such as the consolidation of the budget exercise, the constitution of call for application files, etc., and in other stages, the ECM will play the role of source of information to provide all the other integrated solutions with the documentation useful for the execution of the task, such as providing examples of contracts according to the need (contract),

b. Data capture solution:

To have real-time visibility on the progress of the process, our arsenal of IT solutions should be equipped with a data capture solution, which will then allow us to establish the links between the components of the same process. on the different reference systems used by the

company. Also, this capture solution will be useful for extracting data from documents (Contracts, technical offer, etc.), and will therefore automatically populate the fields dedicated to each business on the ERP or the e-procurement.

c. Workflow automation solution:

Beyond rigid procedures that lack agility and flexibility, automated workflows will allow managers to better organize themselves, especially when the execution of a procedure remains dependent on the data of each case. Upstream to the configuration of a given workflow, the system makes it possible to establish management rules, with execution deadlines and sometimes even the managers are known and named beforehand for each type of purchase. For example, purchases of less than 20KDh should not be treated in the same way and within the same timeframe as purchases of services which may cost millions. For this case, the automation of workflows will instruct the system to use the data capture functionality on the "Purchase Request" document (available on the ECM) and to direct the Purchasing flow automatically to the person designated to this type and to grant him a specific processing time. This solution will also make it possible to compare the amount and wording of the project with the budget planning data and to allow or prohibit the launch of the process depending on the availability of the budget.

2. Operations carried out prior to the integration of the new solution

In order to guarantee a radical resolution of the problems identified in the previous parts, certain operations must be carried out.

If the ECM package already contains pre-built modules that are used to capture data from documents and information systems, automate workflows based on captured data and built-in database updates, and consult the documentation and follow the evolution of the configured process, it is essential to integrate this solution package with the other applications used during the process.

a. Creation of input models on the ECM:

On the part of the ECM dedicated to budget planning, the functional administrator creates entry models, for example an Excel document comprising a column for the titles of the projects, another for the description of the projects and another for the budgets estimated. The final column of final budgets will be revealed once the budget validation workflow is complete.

Also, in the project management part, the administrator integrates (blank) document models to choose from, depending on the type of project, to enter data relating to the call for tenders, TSF models, grids pre-qualification, technical evaluation grids….

These models will make it possible to structure the data of the call for tenders and facilitate their absorption by the other integrated systems.

b. Implementation on the ECM of files processed in the past:

In order to allow all stakeholders to capitalize on the experience of projects already carried out by the company, a project to dematerialize purchasing files (Paper) has been launched to digitize these files and facilitate their use.

These digitized and integrated files on the Knowledge Management part of the ECM will also allow project managers to be more precise in their budget estimates by accessing the price lists of similar projects carried out by other project managers.

c. Creation of a "contracts-library":

An electronic library dedicated to contracts is created to serve the needs of lawyers, buyers and project managers in terms of managing contract templates.

d. Integration of ECM with ERP:

For project managers to be able to express their needs in terms of projects and financial estimates, it is important to integrate the part of the ECM dedicated to budgets with the ERP, so that each budget line created on the ECM is automatically created and transferred to the ERP after validation of the budgets on the ECM. This will also allow PMs to follow in real time, from the ECM, the evolution of the consumption of the budgets of their projects on the ERP.

This integration between the ERP and the ECM must also cover the part of the ECM dedicated to project management. Indeed, since the PR is generated on the ERP, it must be preconfigured to retrieve the lines of the price schedules from the ECM.

e. Integration of ECM with E-Procurement:

When the project manager creates a "project" workspace, he must be able to create his CA file from the preconfigured templates. The data fields of these models are integrated with the E-Procurement solution and allow, once validated, to create a new file on E-Procurement with the documents and data of the CA, validated on the ECM. In addition, the buyer has more facilities to browse the project files and the ECM contract library from his purchasing platform.

3. Functional scenario after integration of digital platforms:

a. Budgeting and project planning:

This important phase, which conditions the rest of the steps in the purchasing practice, will benefit from the collaborative work capabilities offered by the ECM solution.

Concretely, each PMO of a given entity will be able to create a team space, dedicated to the collaborators of his entity. In this space, the project managers will proceed to the creation of the descriptions of the proposed projects and will carry out the estimates necessary for the realization of the said projects, thanks to the facilities offered by the ECM for the access to the archived files, likely to contain the different prices, articles or services already consumed by the company.

Then, once the project manager has finalized the documents, he will be able to put his projects and the related documents in the validation flow (Workflows). The director of the entity receives a summary document which includes all the projects to be validated, and if necessary, can also consult the attached documentation.

Validated projects will appear on a consolidated file, which lists all project lines with estimated budgets. This will be shared with the management control entity, which validates it or issues comments on the same platform.

The final version of the budget file will automatically feed the budget lines on the ERP, and will be automatically updated when the lines on the ERP are modified. This will provide project managers and the various parties involved with real-time visibility on the budgets consumed and the remaining balances.

b. The expression of the need to launch the project:

On the part of the ECM dedicated to the entity of the project manager, the functional administrator of the solution creates a personalized directory per project, and adds to the list of actors the project manager, the technical controller, and the hierarchy of the project manager.

The project manager then chooses the project from the drop-down list of projects from the previous step, and begins to co-create the call for application file with the technical controller. Once the Call for Expression of Interest file is completed and validated by the project team, and the purchase request signed electronically by the stakeholders. Once the PR is signed, a notification is sent to the PMO team for the creation of the purchase request on the ERP and linking it to the current case on e-procurement. An automated notification is sent to

the designated procurement team, based on the data selected by the project manager for that deal. Automated workflow can be pre-configured based on the nature of purchases,

Instead of waiting for the end of the CEI period to complete his file, the project manager provides during this phase of expression of need the complete file for the call of application. The price schedule - which was done manually and which had to be entered at several stages of the project, namely, the expression of need, the launch of the call for application, the evaluation and the invoicing - will now be created only once by the project manager during the needs expression phase, and his lines will be automatically inherited by the e-procurement (Purchasing) and e-invoice (Invoicing) solutions.

c. The Call for Expression of Interest:

The documents relating to the CEI, resulting from the previous stage, will be integrated directly into the e-procurement solution and the data (selection criteria, nature of purchases, project brief, etc.) automatically captured from the file will feed the fields needed to launch the CEI. The buyer at this stage is content to ensure the completeness of the information and the relevance of the information. He also applies his knowledge to modify the nature of the purchases or to modify the budget estimate before validating and launching the CEI.

The segmentation of suppliers carried out continuously by the supplier monitoring cell makes it possible to automatically notify (depending on the nature of the purchase) all the suppliers registered on the system, of the creation of a new opportunity. These suppliers are invited to express their interest or lack of interest in the business and to provide the elements justifying their ability to meet the need, if necessary.

Also, the contract library accessible by project managers, lawyers and buyers, allows the buyer to choose the standard contract that best suits the project.

A comparison of the elements of the request with the elements of the offer is automatically sent to the PCM (Purchasing Category Manager) who publishes a report on the companies expressing their interest in the business. This report is subject to the validation of the project manager, the technical controller, the buyer and the hierarchy of the project manager, before its electronic signature.

d. Call for application :

The CA documents have the status "validated" and the price schedule is generated on the ECM, the Purchase Request is created on the ERP, the buyer is now able to launch the CA.

The suppliers selected in the previous step are notified, and have the necessary rights to attach their technical offers, and to enter the price fields on the dedicated form.

e. The technical-commercial evaluation:

Following the opening of the technical offers, the project manager and the technical controller have access to the documents of these offers and proceed to their evaluation. Comments and requests for harmonization are automatically communicated to the suppliers concerned and the buyer is informed.

On the ECM interface dedicated to the project, the project manager and the technical controller carry out the technical evaluation at the level of the fields of the technical criteria created prior to the launch of the call for application. Once the technical evaluation is closed, the buyer is notified for the opening of the financial offers. Financial analysis is now easier for the buyer, because he receives directly the comparison of the fields entered on the digitized price schedules instead of receiving them on files of different formats, scanned in different qualities, and in which the suppliers could add or delete lines without declaring their modification suggestions in their technical offers.

f. The auction:

The technical and commercial evaluation reports give rise to an auction report, which will be shared by the buyer with the various project stakeholders and the chairman of the tender committee.

The validation of the auction will be done on the Purchasing team space dedicated to the auction committee, and the minutes will be signed electronically, with the possibility of issuing comments or requesting additional information from the chairman of the tender committee.

Once the minutes have been signed, the award notification is sent to the winning supplier(s). A similar notification is sent to management control for the establishment of the Budget Commitment Notice and the sharing of this document on the purchasing workspace for signature by the PM and for validation by the buyer. Non-winning suppliers will receive notifications with the reasons for non-selection. These notifications will allow these suppliers to better manage the next call for application that will be addressed to them, and to demonstrate more technical rigor and/or more financial optimization.

g. Contracting:

The integration of the MS Office suite with the ECM allows stakeholders (Legal, Purchasing, Project Manager) to work mutually on the draft contract before submitting it to the contractor. This functionality makes it possible to obtain what is called "single version of truth" in other words, the traceability linked to the modifications of the contractual terms is visible to all the stakeholders on a single source of information, instead of have multiple versions of the

contract on messaging. In addition, a chat window incorporated into the draft contract allows stakeholders to collaborate more effectively.

h. Project execution:

As soon as the contract and the service order are signed, the system identifies the terms of payment and the milestones of the project, and grants the PM the possibility of progressively entering the state of progress of the project (lines consumed, quantities, amounts consumed, etc.), based on the Framework initially planned for the price schedule. The validation of the milestones of the project by the PM will notify the supplier concerned of the validated elements so that the latter edits his invoice and submits it to the accounting department concerned.

i. Billing:

By drawing on intelligent data capture capabilities, and given that the attachments come from the contract price schedule (uniqueness of format), the invoice/contract reconciliation is automated, and therefore the validation of invoices requires less human involvement and payment terms are shorter. In addition, the integration of all the modules deployed with the e-invoice solution will make it possible to import project data beforehand and significantly reduce the error rate.

4. Functional architecture of the chosen solutions:

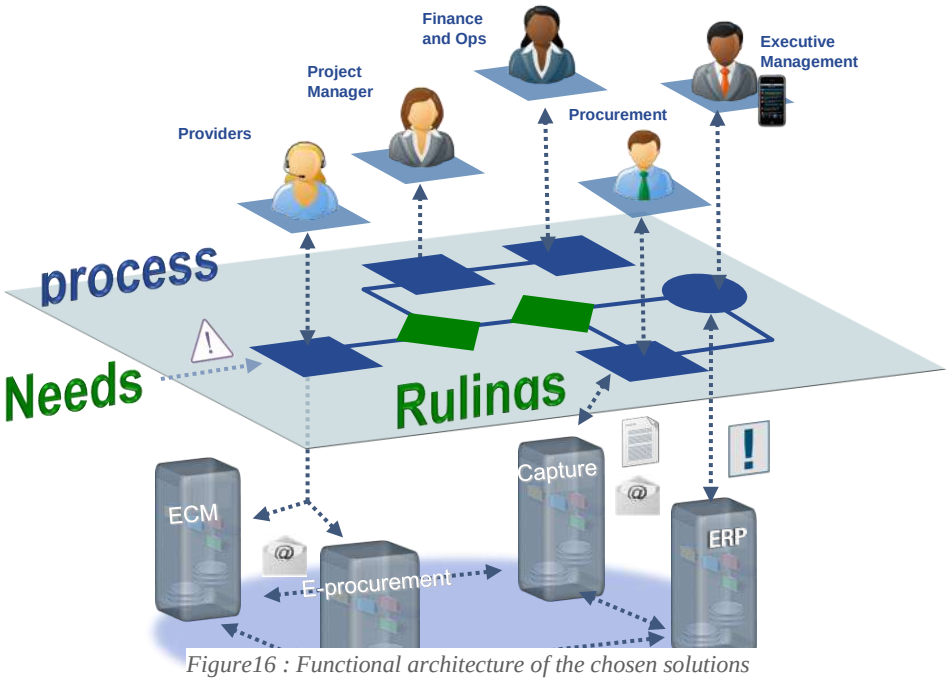

Figure16 : Functional architecture of the chosen solutions

5. Remodeling of the purchasing practice after integration of the solution:

a. Project planning, budgeting and expression of need

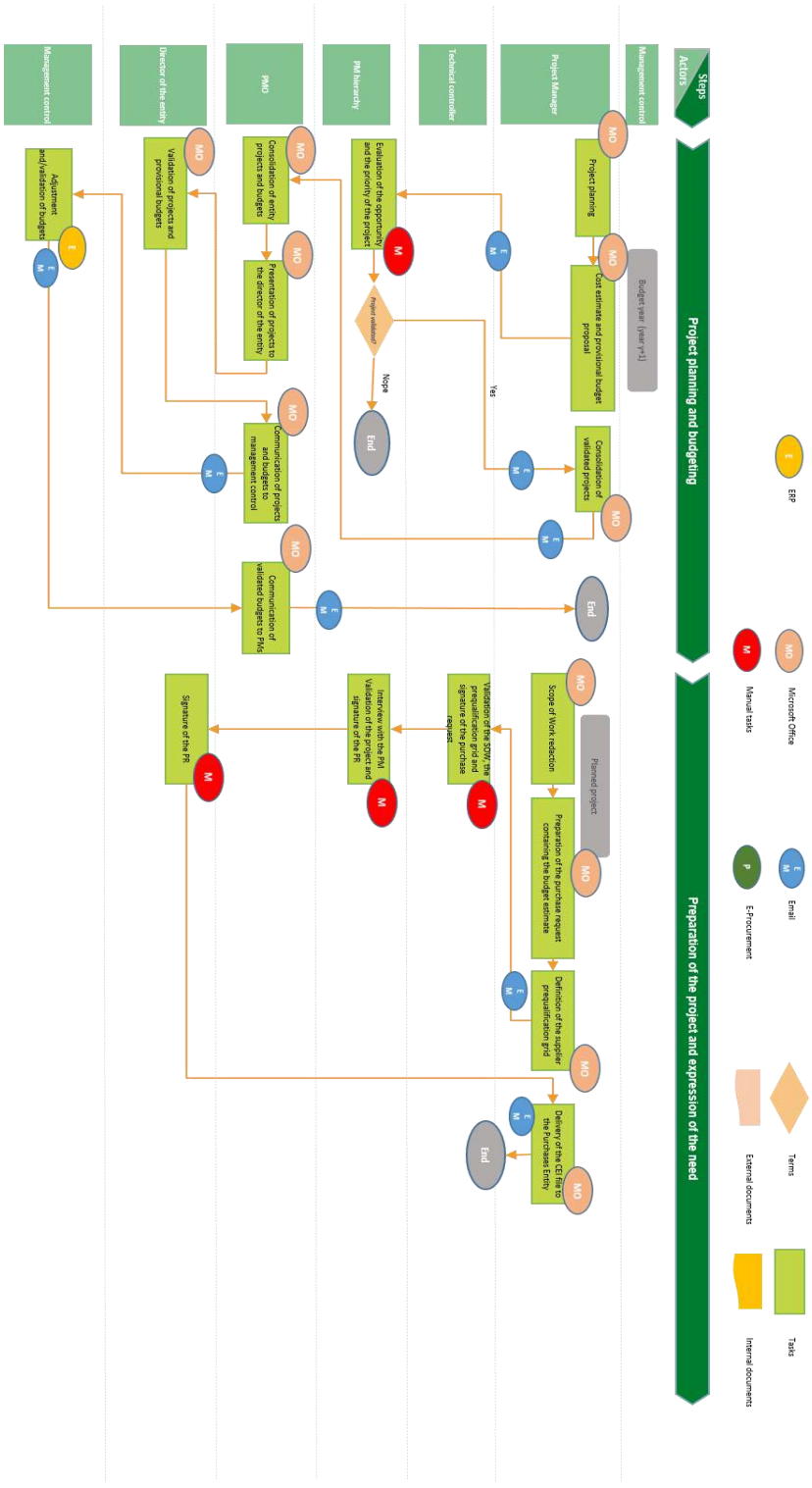

Figure17: remodeling of the Purchasing practice 1/4

b. Call for expression of interest and call for application

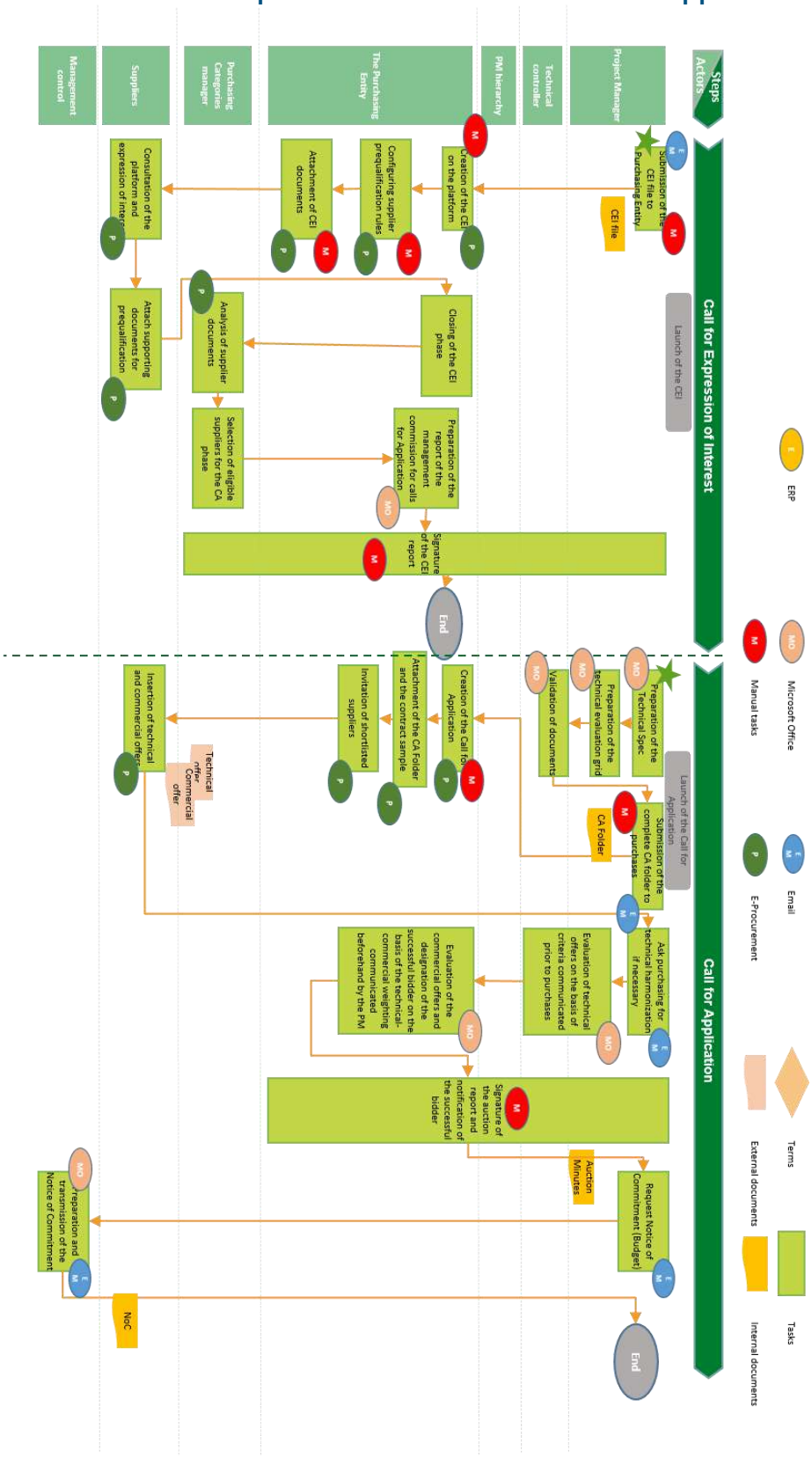

Figure18 : Remodeling of the Purchasing practice 2/4

c. Contracting and validation of the service order:

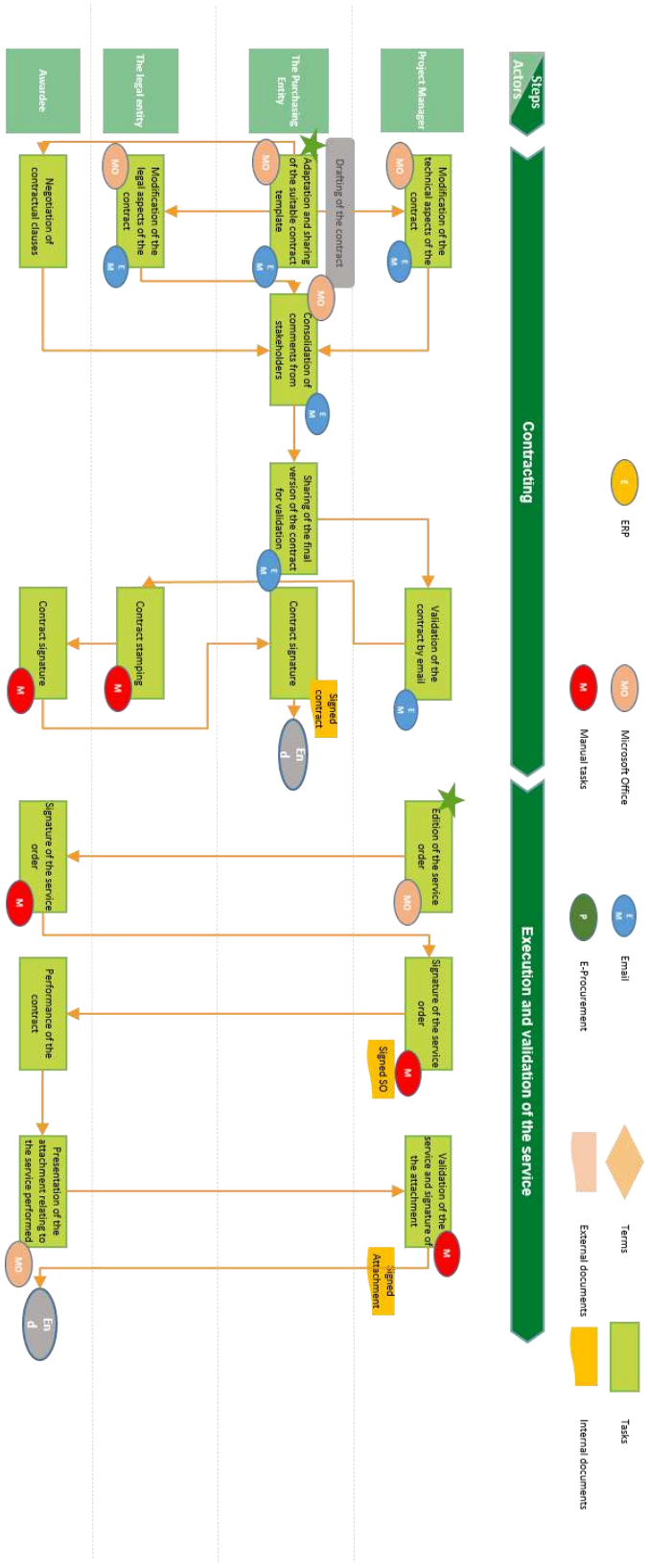

Figure19 :Remodeling of the Purchasing practice 3/4

d. Billing:

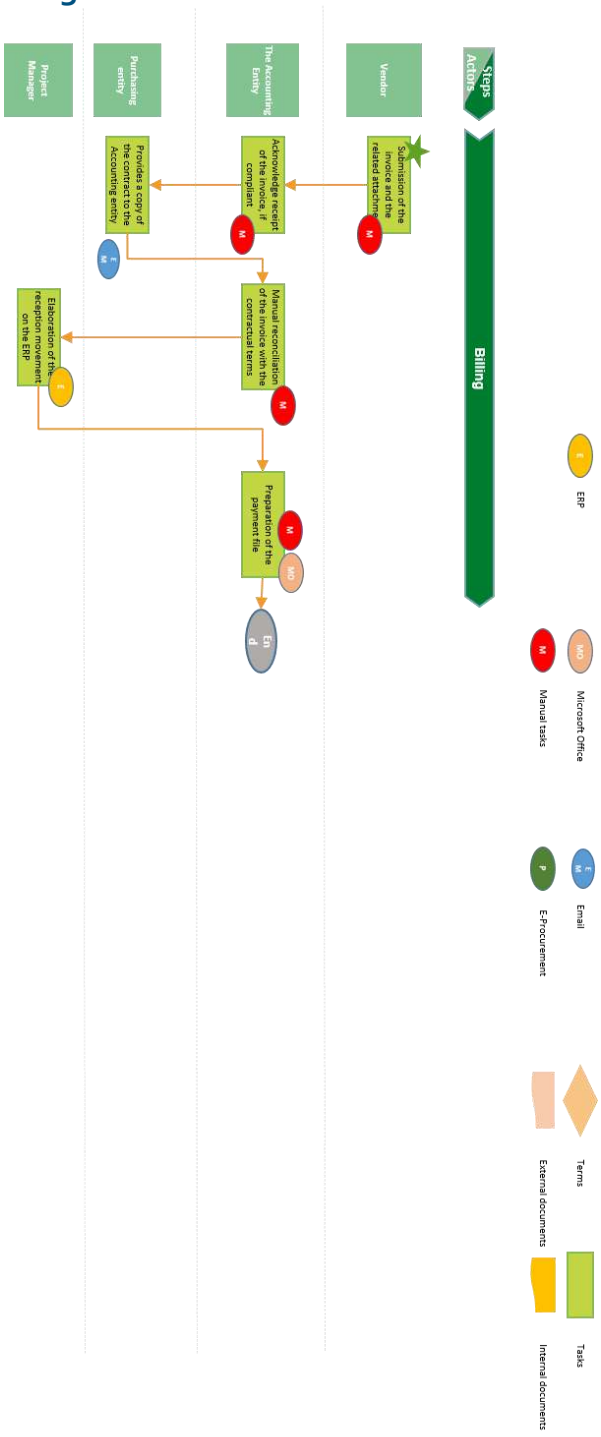

Figure20 :Remodeling of the Purchasing practice 4/4

6. Summary of the delays saved after process reengineering:

Task ID	Time consumed by the task before reengineering (Weeks)	Cumulative delays before reengineering (Weeks)	Time consumed by the task after reengineering (Weeks)	Cumulative delays after reengineering
1.1	3	3	1	1
1.2	1	4	0.2	1.2
1.3	0.4	4.4	0	1.2
1.4	1	5.4	0	1.2
2.1	1	6.4	0.8	2
2.2	2	8.4	1	3
2.3	0.6	9	0.2	3.2
3.1	0.5	9.5	0	3.2
3.3	0.2	9.7	0.2	3.4
6.1	0.6	10.3	0	3.4
6.2	0.4	10.7	0.1	3.5
6.3	0.4	11.1	0	3.5
7.1	0.8	11.9	0	3.5
7.2	2	13.9	2	5.5
9.2	1	14.9	0	5.5

Table9 :Summary of time saved by the new solution

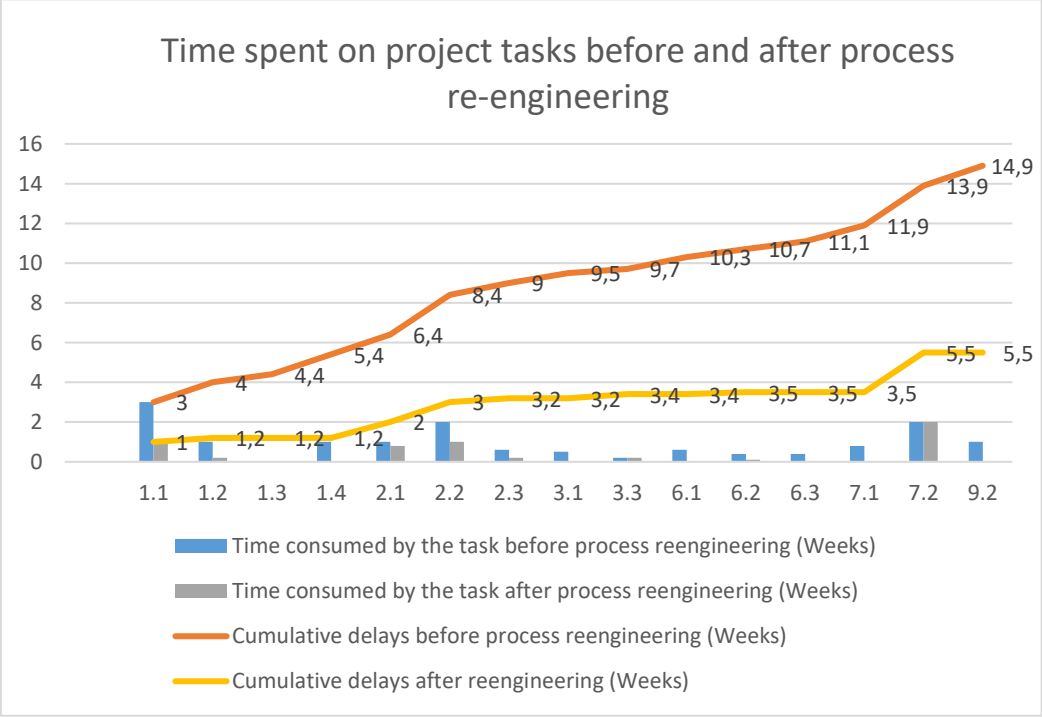

Figure21 :Graph representing the time spent on project tasks before and after reengineering

The graph above represents the time spent on project tasks before and after reengineering.

First of all, we note that the time consumed by each of the tasks has dropped considerably after the reengineering, which explains why the useless tasks and the multitude of IT solutions cause a huge delay and affect the whole process.

We note that the cumulative delay after reengineering has decreased by 10.4 weeks.

Chapter II: Project support through the establishment of change management

We have previously defined in Chapter II the process of change, its approaches and its objectives. At this stage of our research and after citing some solutions to the problem. These changes in habits, tools, etc….. are not anecdotal and often have a strong impact on the people concerned. We must not forget to take into account that the technical aspects are to the detriment of the human aspects.

Starting from a situation A to end up with a target situation B requires special management and the assurance of smooth change.

To this end, and to answer the question "What attitude should the project team have to reduce resistance to change?" »

We have chosen to start the reflection from the diagram of Autissier and Moutot, it is the diagram of the cycles of change based on 2 major cycles divided into different axes.

Before starting the change management cycles, it is imperative to carry out a diagnosis of the change which corresponds to the analysis of the change and the context.

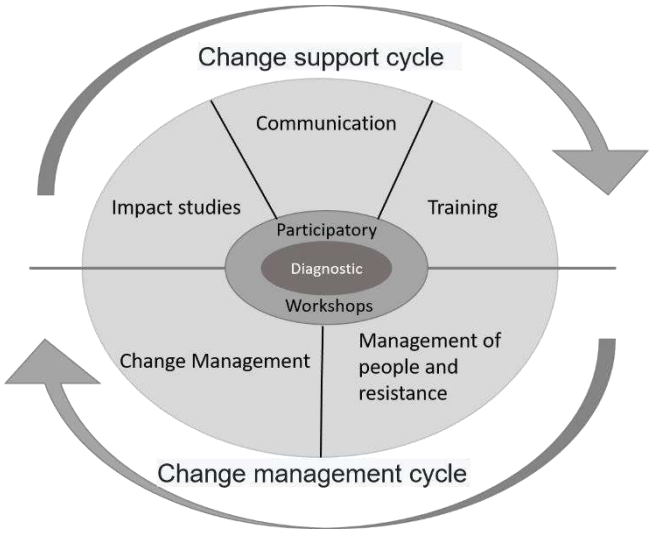

Figure22 : Change management cycles (Autissier and Moutot 2003 and 2007)

1. The diagnosis :

The diagnosis is generally made during the upstream phase of the project. The change management manager, an essential member of the project team, is therefore called upon to work by making a large number of assumptions as realistically as possible.

The diagnosis of change can include three elements which are:

- **The framing note:**it makes it possible to clarify the objectives and the main challenges of the transformation of the purchasing profession;

- **The dimensioning of change management:** it makes it possible to size the team needs for the change management project, it is a method which aims to measure the two dimensions of the change in terms of staff and scope concerned and also in terms of the importance of the changes for the various targets within the perimeter;
- **The organization of change management:**it is the fact of defining the actors making it possible to design the action plans, to report information on the ground to the project team, Prioritize the questions to be addressed, aim for the balance between the full-time seconded resources and the operational resources solicited only within the framework of the project.

We propose to initiate participatory workshops from this diagnosis phase both for the development of the various elements of this stage, and to set the tone for what will be the change management. This phase will also allow us to define the list of people who will be most positively affected by this change, in particular those who have already demanded a change in the current way of working and who complain about redundant tasks with low added value. These collaborators are project managers, management controllers, buyers and accountants.

2. Participatory workshops:

A practice can be found in all stages of change management, it makes it possible to collectively build change and to feed the various levers and actions of change management. Participatory workshops are moments during which the participants discuss with each other from a scenario and a specific animation based on their practices and their experiences.

During these workshops, although the main shortcomings have already been revealed during this study, the involvement of stakeholders for the presentation of the anomalies and the proposed solutions will make it possible on the one hand to win their involvement, and on the other hand to establish a kind of moral contract between the project team and the beneficiaries which will specify the targeted scope and adjust the expectations of future users to the advantages provided by the proposed solution.

Also, and for reasons of organization and optimization of exchanges, we are going to present to each of the entities separately, a demonstration of the contributions of the new process, in terms of economy of effort and facilities provided by the proposed technologies. This demonstration will allow stakeholders to touch the target product, experience the change, appreciate it, and communicate to the project team any comments that may be useful before the start of the deployment.

3. Change support cycle:

This cycle illustrates the deployment of the levers of change management that is divided into three main axes, which are:

a. Support impact study

The impact study is an essential step in the change management project, it consists of listing all the changes generated by the project by identifying the impacts of different natures (organizational, cultural, operational, tool, etc.) as well as the populations that will undergo this change, it also makes the link between the analysis phases and the action phases.

It is obvious that the proposed solution must be intuitive, user-friendly, and visually acceptable to future users. As a result, we have chosen for this project to proceed according to several iterations, which will be validated by the stakeholders before going into production.

b. Create a communication plan

The communication component consists in finding a positioning for the project and transmitting it on different internal media according to the targets. The various actions envisaged are described in a communication plan and can be disseminated in several forms, we cite a few:

- **The documentation**: the establishment of a documentary repository that allows everyone to know everything that has been said and written without having attended all the workshops;
- **The posters**: Attached to the most frequented areas of the organization's headquarters, under a slogan highlighting the targeted profession and the assets of the project in question. This project will have as its slogan: “Flexibility of professions for sustainable digitization”.
- **Conferences and meetings**: Highlighting the targeted professions, giving the opportunity to the employees concerned to express themselves on the project is synonymous with their adherence to the project and the prevention of any attempt at resistance or blockage;
- **Communication kits**: Are intended for all future users of the solution, these kits contain brochures presenting the project, as well as video support for the demonstration of the cost savings and the efforts offered by the target solution;
- Etc…

c. The training plan:

It is necessary to give people who experience the changes lessons that will enable them to better understand and implement them.

- This takes the form of a training plan that defines needs, content, beneficiaries and deadlines. This plan then serves as the basis for the production of materials, the carrying out of training and the assessment of the knowledge required. The purpose of this training is to learn about the functionalities of the computer tool and the corresponding business developments. The content of the change needs to be assimilated by the employees who will have to carry it and carry it out and this through Tutoring-coaching, classroom training, e-learning, etc., to do this we distinguish 3 stages :
- Identification of training needs:
- The design of the training plan;
- Deployment and management of training.

d. Change management cycle

It is a cycle during which the change management manager equips himself with tools to ensure the achievement of the change and the objectives previously set by the project team. It is divided into 2 main axes which are:

e. The management of people and resistance

To change is to lose a known existence for an uncertain future, which is why the human dimension is essential in a change project. Employees are the main architects of change. The ideal is to involve them and offer them to participate in the change rather than undergo it.

The behavior of employees should not be underestimated but treated as a key factor in the success of the change that will have to be managed and evaluated.

While basing ourselves on the culture of the company, its system of values, its routines and habits and the level of resistance of the various groups of actors, we propose to carry out interviews, to administer a questionnaire with a representative sample to identify the behavior of each actor.

Among users, there are generally three typical behaviors, according to the following figure by Autissier relating to the behavior of actors in the face of change:

- Proactive (10%): Favorable to change, they position themselves as prescribers.
- Opponents (10%): Opposed to projects, they systematically put forward negative arguments.

- Passives (80%): Waiting for convincing results, they want to be secure.

To define the behavioral state of each of the participants but also to define for each of them their fears, their expectations and their resistances, we thought of setting up a table for collecting information as follows:

Stakeholder categories	Number	Kinds	Fears	Expectations	Resistors
PC		Proactive Opponents Passives Not applicable			
Buyer		Proactive Opponents Passives Not applicable			
Management Controller, etc.		Proactive Opponents Passives Not applicable			

Table10 :Information collection table

The answers obtained from the questionnaire and filled in by the project team on the previous table will make it possible to formalize graphs, which will give us a segmentation of the actors according to their behavior in the face of change, and consequently to consider solutions adapted to each situation. .

4. Pilot phase deliverables:

After thinking about implementing transformation, communication and training actions, monitoring of these change management actions is necessary to measure the state of adherence and participation of the different users but also to assess the risks of the project at each of its phases.

To this end, we have thought about setting up indicators, monitoring them on a regular basis in order to identify the weak signals essential to the success of the project.

Among these indicators, we cite:

- The information rate of the project;
- The rate of understanding of the project;
- The rate of membership of the project;
- The rate of participation in the project.

The data resulting from the study of these indicators will allow the project team to ensure that none of the project stakeholders are lost during its deployment, and also to correct and redirect the conduct of the project during its evolution.

Conclusion

This thesis focuses on the need to rethink the business process of the Purchasing profession and its remodeling, and this, in an efficient, sustainable and flexible approach to accommodate future developments.

To this end, we have chosen to begin by defining and analyzing the basic concepts that allowed us to become familiar with the fundamental terms that are most often used and that are related to our subject, in order to define a precise research framework.

Then, we were able to answer the questions asked at the start of this work by:

- The diagnosis to highlight the tasks carried out by each of the actors throughout the value chain;
- The description of each of these tasks to allow us to quantitatively and qualitatively assess the efforts made and the shortcomings encountered by each of the actors;
- The identification of anomalies that appear during the course of the process.

In the same model, we highlighted the IS tools used for each of the tasks, as well as the quantitative and qualitative anomalies that these practices experience.

The challenge in this study is to review the path of the process by focusing on the elimination of non-value-added steps and the reduction of their impact on deadlines while optimizing value-added activities. All this in view of the constraints, new requirements and malfunctions identified and analyzed.

This work was carried out in collaboration with all the stakeholders in the purchasing process of the host organization; we affected brainstorming throughout the research to understand the interpretations and practices of each of the actors.

This helped us to draw the following conclusions:

- Procedures that do not take into account the stages upstream and downstream of the Purchasing operation;
- The non-integration of IT solutions;
- Multitude of IT solutions used;
- Incompleteness of the Purchasing procedure and complexity of the practice that replaces it.

To remedy this, we carried out a process remodeling by exploiting the digital tool and unifying the multitude of solutions to save time in effectiveness and efficiency.

Finally, We proposed a change management plan to support this change and avoid any resistance from users.

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