

**DIFFICULTIES OF PUBLIC LEGISLATION FOR THE
ACQUISITION OF GOODS AND SERVICES**

Patrícia Alexandra Marques Costa

Dissertation submitted as a partial requirement for the conferral of master's
in management

Supervisor:

Prof. Teresa Sofia Sardinha Cardoso de Gomes Grilo, Assistant Professor, ISCTE
Business School, Department of Marketing, Operations and General Management

Co-Supervisor:

Prof. Ana Lúcia Henriques Martins, Assistant Professor, ISCTE Business School,
Department of Marketing, Operations and General Management

October 2018

“Something is only impossible until someone doubts and proves otherwise.”

Albert Einstein

Acknowledgements

This dissertation was the highest point of my academic life, in which I fulfilled goals that would not have been possible to fulfil, without the support of some people, to whom I would like to begin by thanking.

My greatest thank you to my supervisors, Professor Teresa Grilo and Professor Ana Lúcia Martins, for the excellent guidance, the knowledge imparted, and for always being there for me during the development of this dissertation.

Next, I would like to thank the ISCTE - Instituto Universitário de Lisboa, in particular, the Property and Procurement Unit, for their full availability and for providing me with all the information and data necessary to complete this dissertation.

A special thank you to my boyfriend for all the love, kindness and support in my journey; he always has the right words, at the right times.

Finally, I give my heartfelt thank you to my parents and brother, for the unconditional support and affection they have always given me, and for their patience in the moments of greatest anguish. Without them, my academic journey would not have been possible. I dedicate my victory to them.

My sincere thank you to all who have contributed directly and indirectly to the fulfilment of this great goal.

Abstract

The role of purchasing is increasingly important for companies in the public sector, which are increasingly seek efficiency and effectiveness in their procurement processes. However, public companies need to govern all their activities respecting the legal procedures which sometimes leads to some operational difficulties, resulting in inefficiencies in the procurement process. This dissertation aims to identify opportunities for improvement in the procurement process in the public sector, looking specifically at the difficulties felt as a result of legally imposed procedures.

The adopted methodology is based on a dissertation per case study applied to the public procurement process in the Portuguese context. A public university - ISCTE - Instituto Universitário de Lisboa, was used as an example, but the proposed approach could be applied to other public entities. Direct observations, informal and formal interviews, and necessary documentation were collected for data analysis.

The procurement process was described based on the internal procedures adopted, and based on the legal terms, since these are organizations that are under the jurisdiction of the Public Procurement Code.

The results of the research allowed to conclude that the application of lean thinking in public entities can be useful in the fight against the difficulties felt in the application of the law in the public procurement processes.

To conclude this dissertation, three proposals to improve the procurement process of a public entity were presented. If implemented, these proposals eliminate waste and create value, being in accordance with the philosophy of lean thinking.

Key words: Process improvement, Public Procurement

JEL Classification: M10 – Business Administration

Y40 – Dissertation

Resumo

O papel das compras é cada vez mais importante para as empresas do setor público, as quais procuram cada vez mais eficiência e eficácia nos seus processos de compra. No entanto, as empresas públicas precisam de reger toda a sua atividade respeitando os procedimentos legais, o que por vezes traz algumas dificuldades de operacionalização, resultando em ineficiências no processo de compra. Esta dissertação surge neste contexto, tendo como objetivo identificar oportunidades de melhoria no processo de aquisição no setor público, olhando especificamente para as dificuldades sentidas como resultado dos procedimentos impostos legalmente.

A metodologia adotada baseia-se numa dissertação por estudo de caso aplicado ao processo de contratação pública no contexto português. Uma universidade pública - ISCTE - Instituto Universitário de Lisboa, foi usada como exemplo, podendo, no entanto, a abordagem proposta ser aplicada a outras entidades públicas. Observações diretas, entrevistas formais e informais, e documentação necessária foram recolhidas para análise de dados.

O processo de compra foi descrito com base nos procedimentos internos adotados e com base nos termos legais, uma vez que são organizações sob jurisdição do Código de Contratação Pública.

Os resultados da pesquisa permitiram concluir que a aplicação do pensamento lean em entidades públicas pode ser útil no combate às dificuldades sentidas na aplicação da lei nos processos de compra pública.

Para concluir esta dissertação, foram apresentadas três propostas de melhoria ao processo de compra de uma entidade pública. Se implementadas, estas propostas eliminam desperdícios e criam valor, estando em concordância com a filosofia do pensamento lean.

Palavras-Chave: Melhoria de processos, Compra Pública

Classificação JEL: M10 – Business Administration

Y40 – Dissertations

Index

Acknowledgements	iii
Abstract	iv
Resumo	v
Index	vi
Figures Index	ix
Tables Index.....	x
List of abbreviations.....	xi
Glossary	xiii
Chapter 1 – Introduction	1
1.1. Framework	1
1.2. Contextualizing the problem.....	1
1.3. Research question	1
1.4. Objectives	2
1.5. Methodology	2
1.6. Scope.....	2
1.7. Dissertation structure	3
Chapter 2 – Literature Review.....	5
2.1. Introduction.....	5
2.2. Value Chain	5
2.2.1. Procurement	6
2.2.2. Procurement process	7
2.3. Process improvement in procurement.....	8
2.4. Lean Thinking.....	11
2.5. Lean Thinking in services area	14
2.5.2. Implementation of lean procedures	14
2.5.2. Waste in services.....	15

2.6. Lean Thinking in the public sector	17
2.6.1. Lean application to the public sector.....	17
2.6.2. Lean application to the public procurement.....	18
2.7. Conclusions.....	19
Chapter 3 – Public Purchase in Portugal	21
3.1. Introduction.....	21
3.2. Portuguese public sector	21
3.3. Laws governing the acquisition of goods and services in the Portuguese Public Sector	23
3.4. Descriptions and legal mappings of the public procedures	24
3.4.1. Direct Adjustment	24
3.4.2. Prior consultation	25
3.4.3. Public Tender	26
3.4.4. Competition limited by prior qualification.....	26
3.4.5. Negotiation procedure	27
3.4.6. Competitive Dialogue	27
3.4.7. Partnerships for innovation	28
3.5. Conclusions.....	28
Chapter 4 – Methodology	29
4.1. Introduction.....	29
4.2. Case study characterization.....	29
4.3. Overview of research steps	30
Chapter 5 – Case Study.....	35
5.1. Introduction.....	35
5.2. ISCTE -Instituto Universitário de Lisboa characterization	35
5.3. Step 1: Mapping of the ISCTE-IUL procurement process	38
5.3.1. Data collection: first interview	38

5.3.2. Mapping and describing the procurement process for values equal to or less than € 5,000.....	40
5.3.3. Mapping and describing the procurement process for values above 5,000 €	42
5.4. Step 2: Difficulties experienced in the execution of the procurement process....	44
5.4.1. Data collection: second interview	44
5.4.2. The procurement process: difficulties and opportunities	45
5.5. Step 3: Proposals and assessment of the improvements in the procurement process	49
5.6. Step 4: Validation of proposals for improvement in the procurement process ...	56
5.7. Step 5: Final recommendations.....	57
Chapter 6 – Conclusions	59
6.1. Introduction.....	59
6.2. Objective analysis	59
6.3. Research question	60
6.4. Limitations of research	61
6.5. Proposals for further research	61
References.....	63
Appendix	67
Appendix 1 – Legal mapping of direct adjustment.....	67
Appendix 2 – Legal mapping of prior consultation	68
Appendix 3 – Legal mapping of public tender	69
Appendix 4 – Legal mapping of competition limited by prior consultation	70
Appendix 5 – Legal mapping of negotiation procedure	71
Appendix 6 – Legal mapping of partnerships for innovation	72
Appendix 7 – Semi-structured interview 1 (step 1 of methodology)	73
Appendix 8 – Semi-structured interview 2 (step 2 of methodology)	74

Figures Index

Figure 01: Value Chain	5
Figure 02: Procurement process stages	7
Figure 03: Principles of lean	12
Figure 04: Five main phases of implementation of lean procedures.....	14
Figure 05: Waste in services.....	16
Figure 06: Constitution of the Portuguese Public Sector	22
Figure 07: Procedures of the Public Procurement Code	23
Figure 08: Organizational chart of ISCTE-IUL	36
Figure 09: Mapping of the procurement process equal to or less than 5,000 € in ISCTE-IUL	42
Figure 10: Mapping of the procurement process above 5,000 € in ISCTE-IUL.....	44
Figure 11: New mapping for simplified direct settings for the research units	53

Tables Index

Table 01: European thresholds for public tenders	26
Table 02: Overview of research steps	30
Table 03: Activities of the departments involved in the ISCTE-IUL procurement process	37
Table 04: Sample constitution	39
Table 05: Number of people who identified the normality or complexity of the procurement process of ISCTE-IUL.....	40
Table 06: Waste identified in the ISCTE-IUL procurement process	45
Table 07: Comparison of the amount spent in two different periods with supplier X, as of August 15, 2018	51
Table 08: Impact of the proposals on improving the difficulties found in the procurement process	55
Table 09: Impact of the proposals presented in the creation of value for the diverse levels of the value chain	55

List of abbreviations

AAS: Administrative Autonomy Services

AFAS: Administrative and Financial Autonomy Services

BRU: Business Research Unit

CEI: Centro de Estudos Internacionais

CIES: Centro de Investigação e Estudos de Sociologia

CIS: Centro de Investigação e Intervenção Social

CMO: Communication and Multimedia Office

CSA: Career Services and Alumni

DINÂMIA: Centro de Estudos sobre a Mudança Socioeconómica e Território

ESCH: Escola de Ciências Sociais e Humanas

ESPP: Escola de Sociologia e Políticas Públicas

ERP: Enterprise Resource Planning

HRU: Human Resources Unit

IBS: ISCTE Business School

ICIS: Information and Communication Infrastructure Service

IRO: International Relations Office

ISTA: Escola de Tecnologias e Arquitetura

ISTAR: Information Sciences, Technologies and Architecture Research Centre

IT: Delegação do Instituto de Telecomunicações

IUL: Instituto Universitário de Lisboa

JIT: Just-In-Time

PPC: Public Procurement Code

PPU: Property and Procurement Unit

SAS: Social Action Services

TPS: Toyota Production System

UBR: Unit Buildings and Resources

Glossary

Administrator: Entity of the ISCTE-IUL - Instituto Universitário de Lisboa, to which powers are attributed to the authorization of the expenditure.

Budgetary Approach: Captivation of the monetary value necessary to spend on the acquisition of a good or service, in an expense process.

Commitment: Acceptance by the contracting authority of the assumptions inherent in the duties and responsibility of any process of expenditure to suppliers.

Contracts: It is an agreement between two or more parties, with a legal relationship, designed to establish the interests between the parties. Examples of contracts are contracts for maintenance, cleaning and security, software licenses, service providers, among others.

Contract documents: Part of the procedure that contains the clauses to be included in the contract to be celebrated – article 42 of Public Procurement Code.

Expenditure requirement: Document that contains information about the technical and functional characteristics about the product or service to be acquired. It must also contain the amount expected to be spent on the acquisition and the intended date of delivery.

Future value aggregation activity: Activities that in the future provide value to the customer;

Public Procurement Code: Diploma that establishes the discipline of two large groups, which are:

- a) Public procurement regime: formation of public contracts and the reporting of procedures that support the conclusion of the contract.
- b) Substantive regime of administrative contracts: it determines a set of rules regarding the execution, modification and extinction of the contractual relations administrative.

Payment Authorization: Document representing the authorization to execute the invoice payment, issued by the financial unit.

Public Contracts: All contracts awarded by the contracting entities provided for in Article 2 of Public Procurement Code.

SAP: ERP- Enterprise Resource Planning - software used in the management of ISCTE-IUL – Instituto Universitário de Lisboa.

Support activity: Activities that do not add value to the final product but are necessary to achieve it.

Value-added activity: Activities that add value to the final product and make it more valuable.

Waste activity: Activities that provide no value to the final product and should be eliminated immediately, such as waiting time and double handling.

Chapter 1 – Introduction

1.1. Framework

In this chapter, the main goal is to give context to the research, identifying and framing the theme and its objectives. It begins with an approach to the problem of current legislation in public entities, and continues with the objectives of the research, the broad questions to be answered, as well as the methodology, scope and structure to be used throughout this dissertation.

1.2. Contextualizing the problem

All organizations, public or private, develop a set of activities to produce and / or sell their goods or services (Porter, 1992). Public organizations carrying out these activities have limitations, which does not happen with private organizations. One of these limitations occurs in procurement activities and procedures, since public procurement is subject to regulations and standards that are mandatory for many organizations. The integration of law into a company is not always easy, since each organization has a unique internal culture, and difficulties may arise in adapting legal procedures to internal processes.

The integration of the law into Portuguese companies has been a permanent challenge, since it is always intended want to achieve a high level of efficiency, and many companies believe that the current legislation - the Public Procurement Law - requires a lot of bureaucracy and making of decisions that are not always the best and the most adequate for the company, negatively impacting the efficiency of its processes (Agostinho, 2018). Since there were no studies addressing the identification of these difficulties or how they are being overcome by the various public entities in Portugal, this dissertation intends to present topics on this current challenge, developing a study on improving processes in Portuguese public entities.

1.3. Research question

According to the problem presented above, the research question is defined as follows:

How can one improve the procurement of goods and services in public entities to make it more efficient, while considering the underlying legal requirements?

1.4. Objectives

The general objective of this dissertation is to improve the procurement process in the public sector. The specific objectives are:

- a) Mapping the public procurement process and identifying the value for different stakeholders in the procurement process;
- b) Identifying the difficulties experienced by stakeholders during the procurement process with the current legislation;
- c) Proposing improvements with the potential to eliminate and/or reduce the difficulties experienced in the procurement process;
- d) Evaluating and validating proposals;
- e) Final recommendations for improving the public procurement process.

1.5. Methodology

The subject of the present investigation is under explored, and therefore should be analyzed through a case study approach (Yin, 2009). According to the same author, there are three essential characteristics that must be verified for case studies:

- 1) The research question is a "How" and/or "Why" question;
- 2) Research should be focused on contemporary events;
- 3) The investigator has no control over the events being analyzed.

As these three characteristics are perceived according to the objectives and issues previously mentioned, this methodology is applied. Furthermore, the research steps to be followed within the scope of this dissertation are as follows:

- Mapping the current procurement process;
- Identification of the problems and opportunities inherent in the process;
- Proposal and assessment of the improvements in the procurement process;
- Validation of proposals for improvements in the procurement process;
- Final recommendations.

1.6. Scope

To achieve the objectives outlined above, this study intends to analyse the procurement process of public entities using ISCTE - Instituto Universitário de Lisboa as a case study. The investigation will focus on the procurement of goods and services by this

public institution, not focusing on internal procedures but only on the implementation of the legal procedures inherent to the processes. The parties involved in the procurement process, in this public entity, are the administration, the procurement unit, the financial unit, and the treasury. In this sense, with the objectives outlined for this dissertation, the investigation will focus on the difficulties of executing the procurement process in the organization. This process begins when the need to acquire goods and/or services is detected and ends when the supplier receives the payment - focusing on the entire procurement process (sourcing and purchasing).

1.7. Dissertation structure

To comply with the objectives set above, and to provide an answer to the research questions, the dissertation will be organised as follows:

Chapter 1 – Introduction: The research will begin with the contextualization, objectives and key questions to be answered throughout this study, as well as methodology and scope, ending with the structure rooted on this dissertation.

Chapter 2 – Literature Review: The literature review is the chapter that supports the dissertation in theoretical terms and contains concepts and tools that need to be investigated for the resolution of this case study. It begins with a brief explanation about the value chain, which integrates procurement as a support activity. After that, the definitions of purchasing and procurement process are presented. Some improvement studies in the area and possible supply chain strategies are described, as well as an explanation of lean's choice for the development of this dissertation. Consequently, some topics on lean are exposed. This chapter ends with a lean approach to procurement of goods and services, specifying some examples of lean in public procurement.

Chapter 3 – Public Purchase in Portugal: In structural terms, in Portugal, there are two major sectors of activity - the public sector and the private sector. This chapter will focus on the public sector in Portugal, more specifically the features of the sector, the entities to which it belongs, and the laws by which the entities are

governed. It will finish with an explanation about the procurement of goods and services by public entities.

Chapter 4 – Methodology: This chapter presents the justifications of the study methodology adopted and the characterization of the case study. Subsequently, the research steps that will be used throughout the production of this master's thesis are presented in detail

Chapter 5 – Case Study: In this chapter, the aim is to describe the case study and the application of the research steps proposed in the methodology. Therefore, it starts with the characterization of the legislation in the procurement process in public entities and description of the ISCTE-IUL procurement process. Sample data are presented along with the analysis of tools that may benefit the activity. Finally, improvement opportunities are suggested.

Chapter 6 – Conclusions: The last chapter, which concludes the present dissertation, presents the main conclusions of the study, verifying if the proposed objectives were reached and the key questions answered successfully. Finally, it includes study limitations, some recommendations that may improve the treatment process, and proposals for future research.

Chapter 2 – Literature Review

2.1. Introduction

This chapter is characterized by the support of the research through the bibliographic review on topics and concepts of significant importance for the accomplishment of the objectives drawn for the conclusion of the dissertation.

The chapter begins with a brief explanation of the value chain and its activities, specifying one of the support activities - procurement. Some studies and methods demonstrate that lean thinking brings benefits to the service sector. Thus, lean thinking is subject to literature review about its principles and residues, and the main tools that can be used. It ends with its applicability on improving the procurement process, more specifically, in the public procurement.

2.2. Value Chain

Nowadays, organizations have within their structure a set of activities that are intended for the projection, production, marketing, delivery and sustenance of a product or service (Porter, 1992). All the mentioned activities can be represented using a tool called value chain, shown in Figure 01.

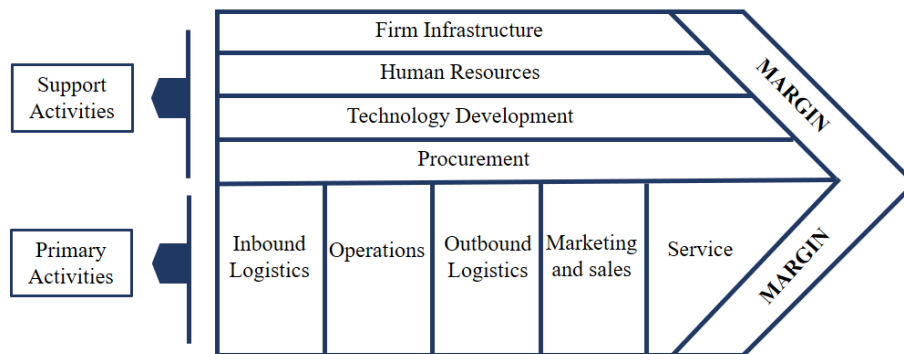


Figure 01: Value Chain

Source: Adapted from Porter, 1992

The whole company intends to have a competitive advantage in the market, and this competitive advantage is only achieved by executing strategically important activities in a cheaper or better way than the competition (Porter, 1992). Therefore, the activities that

generate value to the company should be identified, defining them as strategically important activities.

Value activities can be divided into two groups: primary activities and support activities (Figure 01). Primary activities are activities that allow for the creation and sale of the product, as well as the transfer to the buyer, and the after-sales service. For the primary activities to be carried out, it is necessary to have support activities that are aimed at sustaining the primary activities and themselves (Porter, 1992).

This dissertation will focus only on the support activity - procurement, since this research intends to respond to the current challenge of Portuguese law in the procurement processes of public entities.

2.2.1. Procurement

The two fundamental concepts that must be known are the concept of purchase and procurement. These concepts have evolved over time and have different definitions to different authors. However, it is important to highlight the distinction between them.

According to Gonçalves (2002), purchasing is the acquisition of goods or services necessary for the operation of the company, for Waters (2003: 228), the purchase is "*a mechanism to initiate and control the flows of materials through the chain of supply*" sharing Gonçalves 's (2002) opinion that purchases are responsible for acquiring all kinds of materials needed by the organization.

Procurement refers to all activities related to the acquisition of goods and services, not only by mobilizing materials, but also by the full extent of the transfer of goods (Waters, 2003).

Van Weele (2002) argues that the role of procurement is to obtain from external entities goods and / or services and skills and / or knowledge that are necessary for the conduct and management of all primary and supportive activities to the organization under the most advantageous conditions.

It is important to assume that procurement departments should be managed as a core part of the company, since it is a department where a lot of money is handled and where there is also a lot of savings, and it is necessary to look at it as a strategic department (Ferreira et al., 2017).

2.2.2. Procurement process

Traditionally, the procurement process was known as a very operational and administrative activity, aiming only at obtaining the product or service, with the desired quality, in the exact quantity, with the exact price, and in the exact moment (Ferreira et al., 2017).

Over the years, the purchasing function has evolved to an activity that is a bit more strategic and with defined stages (Figure 02).

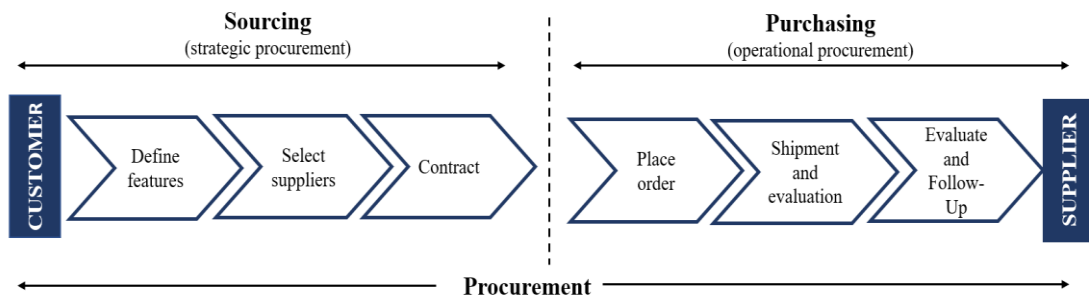


Figure 02: Procurement process stages

Source: Adapted from Ferreira et al. (2017)

According to Ferreira et al. (2017), the steps of the procurement process are described in greater detail.

- **Define features:** The procurement process begins with the definition of technical and functional specifications of the items that will be purchased. These two types of specifications are part of an important document called the contract documents. This document should include information on quality specifications, logistical and maintenance specifications, environmental and legal requirements, among others.
- **Select suppliers:** After defining the technical and functional specifications, it is time to start a market research, to select the suppliers. Important issues to be addressed are the methods of subcontracting, types of payment, requirements to be considered in the preliminary evaluation of the supplier, and finally the analysis of the proposals received.

- **Contract:** Once the supplier is selected, it is necessary to draft a contract, and the contract may or may not be sent in writing. This contract contains the terms agreed between the parties, such as: price and payment conditions, delivery terms, penalty clauses, warranty conditions, among others.
As a rule, for routine products or services, the buyer negotiates a long-term contract with the supplier, where all requirements will be met.
- **Place order:** After the contract has been signed by both parties, the order must be made. Often, through an order form that must be clear and specific, leaving no doubt to the chosen supplier, avoiding administrative and logistical problems.
- **Shipment and evaluation:** Ordering a product or service may involve some shipping and evaluation activities, such as: travel and meetings, negotiations, confirmation of the delivery date of the product, or the execution of the service, confirmation if the product has been delivered, if it is the agreed product; and have the responsibility to maintain the correspondence flux.
- **Evaluate and Follow-Up:** The role of the purchasing department does not end after the delivery of the material or the end of the service. There are also activities to develop in the scope of value creation in the response to complaints, activation of penalty clauses, possible success of extra work, document organization for potential future consultation.

Van Weele (2002) states that using the stages of the procurement process, shown in figure 02, can help in the decision making, which in the future can translate into a reduction of organizational costs, but also in the reduction of the costs of products or services purchased.

2.3. Process improvement in procurement

Over the last few years, several studies have been focused on the improvement of processes in general, and several authors have investigated various topics within the theme of process improvement in procurement.

Business Process Modeling (BPM), according to Association of Business Process Management Professionals (2013), is a methodology that allows one to identify, design, execute, measure, monitor and control business processes, and to add value leading to improved organizational performance. Through the use of this methodology it is possible to have an enlarged and integrated view of the work, and it allows representing the whole chain of activities and respective roles in the structure of the organization (Association of Business Process Management Professionals, 2013). Chwif and Medina (2007) mention that process simulation methodologies provide dynamic process perspectives, since they allow to simulate various processes improvement scenarios through business process modelling.

With the increasing strategic importance of purchasing and market growth, organizations are looking to increase efficiency and the manageability of their contracts (Rendon, 2008). Rendon (2008) also presents his contribution to the evaluation, measurement and improvement of procurement processes in organizations through the Contract Management Maturity Model (CMMM). Contract management refers to the contract of acquisition of goods or services. This methodology provides a framework for improving performance levels by five levels of application across six key process areas and activities related to the contract management process. The six areas mentioned above are identified by specific activities to be developed throughout the procurement process. This method, combined with other performance metrics, provided an effective and efficient strategy that allowed to improve the overall performance of the procurement process of the organization under study (Rendon, 2008).

Another approach that evidences potential improvement in procurement processes is benchmarking. Benson (1998) states that benchmarking is a process of measuring business performance against other competitors' processes, in order to provide data to help the organization identify, plan and implement improvements. Lawrence (1989) states that benchmarking falls into three distinct categories: strategic, operational, and support benchmarking. The category of operational benchmarking is the most used in purchase, since it focuses on the differences of activities performed. To facilitate the analysis of benchmarking, it is usual to study sub-processes of purchase, since the procurement process involves several functional areas (Lawrence, 1989). Benchmarking directly influences process improvement when it identifies best practice (Lawrence, 1989). These identified practices and methods should be monitored to make it possible

to propose improvements that demonstrate that it is possible to achieve the desired objectives by identifying all the aspects that are causing less performance in the procurement process.

Although the before mentioned approaches have been used for process improvement in procurement, the most widely used methodology in in this area is the lean thinking approach. "lean" relates to a philosophy that aims to identify value and wastes (activities that do not bring added value) in search of perfection, improving the efficiency of the process (Womack and Jones, 2003). Waste was initially categorized for the production area (Womack and Jones, 2003). However, in services in general and in the particular case of procurement, waste can also be identified, classified and reduced, creating enormous potential for the entity and the economy (Maleyeff, 2006).

The traditional concern of the purchasing sector is to provide goods and services with the lowest costs and the highest quality to meet customers' expectations and demand. According to Abbot et al. (2006), lean procurement is a very precise asset, since the objective is to reduce waste that is directly linked to the procurement process - flow of products / services, finances, which is strictly necessary for the satisfaction of the final customer. Ansarri and Modarress (1988) mention that lean procurement uses smaller batches, fewer inspections, and less managed work, conforming to the philosophy of lean thinking - "doing more with less." Finally, it is possible to state that the benefits of lean procurement for the various departments in organization are diverse: more time for purchasing teams to create more value (execution department), improved accountability (financial department), shorter waiting time and a good / service in the right conditions (buyer), and optimization of the value chain (management) (LeanProcurement.Com, 2016).

One of the most discussed and researched topics when it comes to improvements in the procurement process is the impact that suppliers have on the overall performance of the procurement process. The selection of suppliers has been considered by many authors as key to the success of the procurement phase, since it represents an increase in savings (Pal et al., 2013). For this topic, the most useful methodology, and the one with better strategic effects, is the ABC matrix, because it allows the classification of the company's items, due to the impact they have on the total company turnover (Ramos et al., 2017). Another methodology used is the Kraljic matrix that proposes cost reduction

through the classification of the items, considering the supply risk and the financial impact they have within the organization (Kraljic, 1983).

In conclusion, after an analysis of the different methodologies studied to improve the procurement processes - business process modeling, contract management maturity model, benchmarking, ABC and Kraljic matrix, lean thinking, it is possible to verify that there is one with a greater potential, considering the scope of this dissertation: lean thinking .

This research intends to analyse the difficulties of the implementation of the law in the procurement processes in public entities, and for that reason, lean thinking shows a high potential, since it fits within the scope of this dissertation and provides several benefits that other methodologies do not provide. In other words, improving the procurement process involves the analysis of processes and inherent wastes, as well as their consequent elimination in order to increase the efficiency of the process, with lean philosophy being the basis of this improvement.

2.4. Lean Thinking

At the time of the creation of the Toyota Production System two very important and crucial concepts emerged - concept of value and waste (Hines, 2016), since it was an integral part of the system. For Womack and Jones (2003), lean thinking avoids waste, specifying value and increasing the fluidity of a process's activities, thus achieving greater efficiency. This lean approach is described to optimize human effort, equipment, time and space, giving customers what they really want (Womack and Jones 2003)

Womack and Jones (2003) identified the five key principles guiding the lean thinking approach depicted in Figure 03.

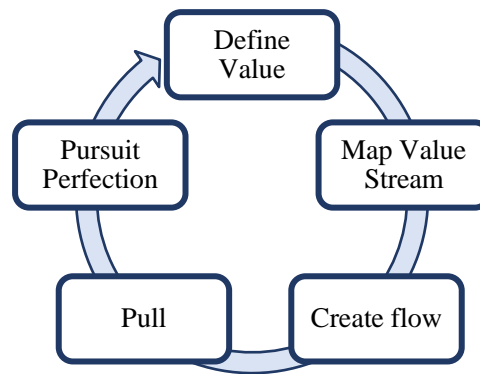


Figure 03: Principles of lean

Source: Womack and Jones (2003)

➤ **Define Value**

The critical starting point for lean thinking is value - as it serves as the basis for the application of the remaining principles. It is a rather complicated variable to be precisely defined for the producer, for several reasons, because the value is defined by the end customer, at a specific time, at a specific price, for a specific product or service (Womack e Jones, 2003). At this stage, it is possible to define the necessary activities to produce value, to guarantee the production of the final product or service desired by the customer and identify those that do not add any value to the customer, to the point of eliminating them (Hines and Rich, 1997).

➤ **Map Value Stream**

The value stream is the identification of the necessary steps to carry out along the value chain for the design of the product or service. According to Womack and Jones (2003), and Hines et al. (2004) only the activities that are present along the value chain will be identified through the mapping, recording information such as the time spent in each procedure, the material and human resources allocated to each task, among others. Hines et al. (2002) defined four diverse types of activities that can be found in any organization when doing a value flow analysis: value-added activities, future value aggregation activities, support activities and waste activities. Once the process has been mapped out, all activities that do not add value to the product or service must be eliminated, thus achieving a more efficient and effective value chain.

➤ **Create Flow**

After defining value and value flow for a product or service, the cycle turns the value chain more fluid (Womack and Jones, 2003). In applying this third principle, organizations need to be aware of the change that will happen - a more continuous process. This flow of continuity can be stopped if one does not abandon the idea of work by functions and departments - the companies were divided by sections with distinct and specific functions and activities, so that there would be no interruptions during the execution of the production, so that if something unexpected happens in some department or in some activity, the complete process would be affected (Womack and Jones, 2003). Thus, many authors advocate non-departmentalization so that tasks are more efficiently grouped where materials are continuously worked from the raw materials to the final product.

➤ **Pull**

The fourth principle of lean thinking is called pull, since it is based on the premise that a product or service can only be produced if there is a request for need on the part of the end customer (Hines, 2016) . Therefore, it must be produced only when an order is placed - transferring the creation of value to the customer, which contrasts with the "push" production that results in the creation of stock. One thing to keep in mind throughout this process is that the customer, when making an order, expects it to be accessed as quickly as possible, so companies should increase the effectiveness and efficiency of response times - making the process "pulled" by the final consumer and not "pushed" by the producer (Womack e Jones, 2003) .

➤ **Pursuit Perfection**

Authors such as Hines (2016) and Poksinska (2010), state that the attainment of perfection is achieved through the continuous elimination of waste, as it appears, since only then will the objective of continuous improvement be visible and become the entire enterprise. This improvement is visible from the moment that the four principles mentioned above interact with each other in a vicious cycle. Thus, the process begins to improve with the reduction of time, space, cost and

errors, increasing the capacity to respond to customer requests, raising their expectations regarding the service or product (Womack and Jones, 2003).

2.5. Lean Thinking in services area

Nowadays, the companies' main goal is to concentrate on providing quality services to meet or even exceed customer expectations, since changes in the economy, the market and regulatory policies are barriers to cost cutting, capacity constraints, and dysfunctional operations, affecting service delivery performance that meets customer needs and expectations (Allway & Corbett, 2002).

Allway & Corbett (2002) argue that the lean approach enables better quality service, delivery with lower cost, and lower capital investment, leading to improved operations - delivering tangible customer benefits and cost-effectiveness measurable for the organization. Many companies, knowing this information, are hastening to apply the transformation, however, it is necessary to recognize in advance if the whole organization is committed to change.

2.5.2. Implementation of lean procedures

Allway & Corbett (2002) states that the implementation of lean procedures in service organizations, be they financial, security or health, is characterized by 5 phases, shown in Figure 04.

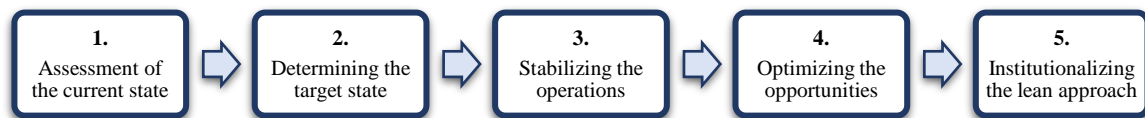


Figure 04: Five main phases of implementation of lean procedures

Source: Adapted from Allway & Corbett (2002)

The first phase begins with the evaluation of the state of the organization: determining the level of operational excellence and the recognition of waste and opportunities in specific areas and throughout the organization. Throughout this step, it is necessary to map the process flows in the model area: determining resources and direct costs for each step in the process, collecting existing metrics, and finally evaluating the overall

effectiveness of the process, conducting the process operational review (Allway & Corbett, 2002).

The second phase will fight the lack of indication of the desired state or the future state, determine the vision according to the strategy and the specific goals, communicating it to the whole organization, so that the commitment and the will to reach the objectives outlined is felt by all (Allway & Corbett, 2002).

The name given to the third stage is the stabilization of operations which means that the organization will have to take the right course, through problem-solving based on historical facts, with the goal of implementing solutions for the organization to progress (Allway & Corbett, 2002).

The penultimate and fourth phase is the arrival to the optimization of the opportunities, creating a continuous flow of growth of materials, people and information (Allway & Corbett, 2002). “The key to any operations improvement— service or manufacturing— is not rigid, dogmatic adherence to the implementation of specific tools or best practices, but the development of the abilities to apply tools and techniques in a systemic process that enables the system to be sustained and improved.” (Allway & Corbett, 2002).

The last phase for implementing lean procedures in service organizations is the institutionalization of the lean approach. At this point, lean needs to become the mantra of the organization, that is, to institutionalize, using continuous improvement practices so that the objectives of cost reduction and quality improvement are fulfilled. This stage includes the assessment of capacity failures and synthesizes relevant learning, so that success may be shaped in areas with major problems. For this to happen, it is necessary to promote dialogue among the whole organization so that the performance increases according to the expectations (Allway & Corbett, 2002).

2.5.2. Waste in services

According to Womack and Jones (2003), the concept of waste refers to any human activity that absorbs resources and creates no value; the Japanese call it "*muda*". Ohno (1988) says that waste can manifest itself in seven various aspects in manufacturing: product defects, overproduction of unnecessary goods, inventories of goods awaiting further processing or consumption, unnecessary processing, unnecessary movement of people, unnecessary transport of goods and waiting times.

However, the terminology used in a manufacturing company and a service company is different. Some authors have adapted this waste list to a service context. Maleyeff (2006) interprets the seven wastes within the internal service context, and this contribution is presented in Figure 05 and is described below.



Figure 05: Waste in services

Source: Adapted from Maleyeff, 2006

- **Processing inefficiencies:** this waste occurs when there is a sequence of activities that are applied inefficiently in the performance of tasks;
- **Mistakes:** errors or omissions that lead to the reworking of the task;
- **Reviews:** also called inspection, includes activities lost due to detection of errors or omissions;
- **Duplication:** this waste occurs when two processes are performed in the same system;
- **Movement:** unnecessary movements in the transportation of information, people or equipment;
- **Delays:** waste associated with the time spent in queues or waiting for information;
- **Resources inefficiencies:** inadequate management of resources such as personnel, equipment, materials or capital.

2.6. Lean Thinking in the public sector

Considering the scope of this dissertation, it is important to expose the academic contributions made so far within the research of lean thinking in the public sector. Several authors mention that the application of lean thinking will bring future performance benefits, but it must be borne in mind that there may be constraints derived from the law.

2.6.1. Lean application to the public sector

The service sector is divided into two segments: the public sector and the private sector. This dissertation will focus only on the public sector. This sector has been the subject of several investigations that analyse several alternatives to reduce costs, improve quantity and quality of services provided in a period in which the economic crisis is accentuated using tools and techniques associated with lean thinking (Radnor and Osborne, 2013).

Hines and Lethbridge (2008) and Radnor and Johnston (2013) present studies that demonstrate performance benefits, fewer waiting times, reduced costs, and improved efficiency when exploring lean thinking.

According to Radnor and Johnston (2013), the goal is for all improvements to be reflected in customer satisfaction, but authors point out that internal customers have a greater importance compared to external customers, being more complicated to meet expectations and create real value for all customers (Radnor and Osborne, 2013). Another limitation to the implementation of lean in the public sector are legal laws and restrictions, which are not as clear as in the private sector (Scorsone, 2008).

Radnor et al. (2012) states that lean implementation does not have to follow specific rules, and so it may depend from business to business, and the on context in which it is found. One possibility of lean implementation in the public sector is the use of basic waste reduction tools and techniques (Radnor and Johnston, 2013) which produce rapid changes to engage people in changing business philosophy (Hines and Lethbridge, 2008).

Some authors mention that lean thinking in the public sector may not be effective in the future due to the global economic crisis and legal constraints, as companies tend to emphasize cost reduction and forget those constraints to create value, generating in the future the loss of efficiency and effectiveness (Radnor and Johnston, 2013).

2.6.2. Lean application to the public procurement

Process efficiency has always been a hotly debated issue. Nowadays, companies have fewer resources and expect their processes to be more efficient. The conditions of service are increasingly scarce, and it is important to create improvement measures for public sector entities (Waterman and McCue, 2012). To create an overstock, it is important to empower companies with the proper tools and techniques that make purchases faster and faster (Waterman and McCue, 2012).

Waterman and McCue (2012) argue that lean thinking should be applied to public procurement as it is possible to analyse processes and identify value and waste in an obvious way.

Several case studies have been applied by several authors to investigate various situations regarding procurement with a lean approach. Schiele and McCue (2006) studied how the application of lean thinking affects the significant involvement of public sector procurement professionals in acquiring professional services. With a case study applied in the United Kingdom, the hypothesis was suggested to develop a set of tools and documentation that support "a standard solution" that is applied throughout the process (Schiele and McCue, 2006). Being a rather utopian view, the authors state that there is immense potential for significant benefits for public purchasing managers and suppliers. However, there is a limitation of stakeholder and activity diversity, and it is not possible to apply lean thinking to public procurement (Waterman and McCue, 2012).

In the implementation of lean in the public sector, particularly in public procurement, tools and techniques for rapid improvement have been used (Radnor & Walley, 2008), as value flow mapping (Hines & Rich, 1997) and six sigma (Proudlove et al., 2008). However, Scorsone (2008) argues that public managers must have a real sense of the inherent legal system, since there are values and requirements to be met. The goal is to achieve the desired efficiency and wait, and not to exceed legal limits nor to comply with pre-established requirements (Scorsone, 2008).

2.7. Conclusions

This chapter had as main objective the exposition of the main investigations, such as theoretical reasoning necessary to reach the intended objectives of the present dissertation.

First, it was contextualized and given due importance to the procurement area, within the value chain. Then, alternative approaches applied for process improvement in procurement were presented, and it was concluded that lean thinking would be the most appropriate approach to be used to fulfil the purpose of the present study.

Subsequently, the fundamental principles and the waste associated with the lean methodology were revealed, which will be extremely important during the dissertation. The waste was identified in an internal context of services, agreeing with the context in which this investigation intends to be developed.

Finally, the application of lean thinking in the public sector and in the public procurement is approached, with mention to studies carried out by several authors. Although some studies exist applying lean to improve procurement processes in general, studies using lean thinking to improve the public procurement process were not found. Accordingly, this is the main intended contribution of this dissertation - the application of lean thinking to the procurement process by public entities - since some aspects may have negative implications in the efficiency of public procurement processes.

Chapter 3 – Public Purchase in Portugal

3.1. Introduction

This chapter presents the details of public procurement in the Portuguese context. This chapter begins with a brief explanation of the structure of the Portuguese public sector, as well as the difference of objectives between public and private entities. Subsequently, the law governing public entities, specifically the law on public procurement, is presented, since it is necessary to follow it. It will end with the procurement legal process mapping for these entities.

3.2. Portuguese public sector

According to Franco (1999), the public sector is the set of economic activities carried out by public entities - state, associations or public institutions. In Portugal, there is a distinction between entities according to their economic and financial nature, i.e., there are entities that make up the Public Administrative Sector and entities that are part of the State Business Sector (Figure 06) (Gomes and Silva, 2017).

The Public Administrative Sector integrates government activities such as administrative management, defence and security exercises, administration of court justice, management of services that are inherent to the satisfaction of community needs, such as transport, education or medical care (Gomes and Silva, 2017). This sector is composed by Central, Local and Regional Administration, and Social Security.

- Central Administration: Includes the entire national territory and comprises the administrative autonomy services (AAS) and administrative and financial autonomy services (AFAS) (Ministry of Economy and Employment, 1992).
 - **AAS** – These entities have a competent, definitive and enforceable authority to authorize expenses and payments under current management.
Examples of such entities are ministerial offices and general directorates.
 - **AFAS** – These entities have private budgets and accounting, as well as their own revenues, and are autonomous.
- Local Administration: It integrates the entities whose decision-making power and activities have as objective the collective interests of a part of the population

referring to municipalities and parishes, always respecting the Regional Administration;

- Regional Administration: It comprises entities whose objective is the same as the Local Government, but for the autonomous regions of the Azores and Madeira;
- Social Security: Integrated in the State Budget Law, it has autonomy, and therefore is governed by a differentiated legal regime having its own funds.

On the other hand, the State Business Sector, approved by Finance Ministry (2013) is responsible for the management and constitution of the public infrastructure of an entrepreneurial nature and for the provision of essential public services in the most diverse sectors and domains. It is made up of a group of public enterprises and subsidiaries enterprises:

- Public enterprises: business organizations constituted in the form of limited liability companies under the commercial law, in which the State or other public entities exercise a dominant influence, including public business entities.
- Subsidiaries enterprises: business organizations in which the State or any other public entity, whether administrative or corporate, holds a permanent participation, provided that all public holdings do not have a dominant influence.

By the end of 2017, the State Business Sector contained a total of 119 companies in its overall portfolio.

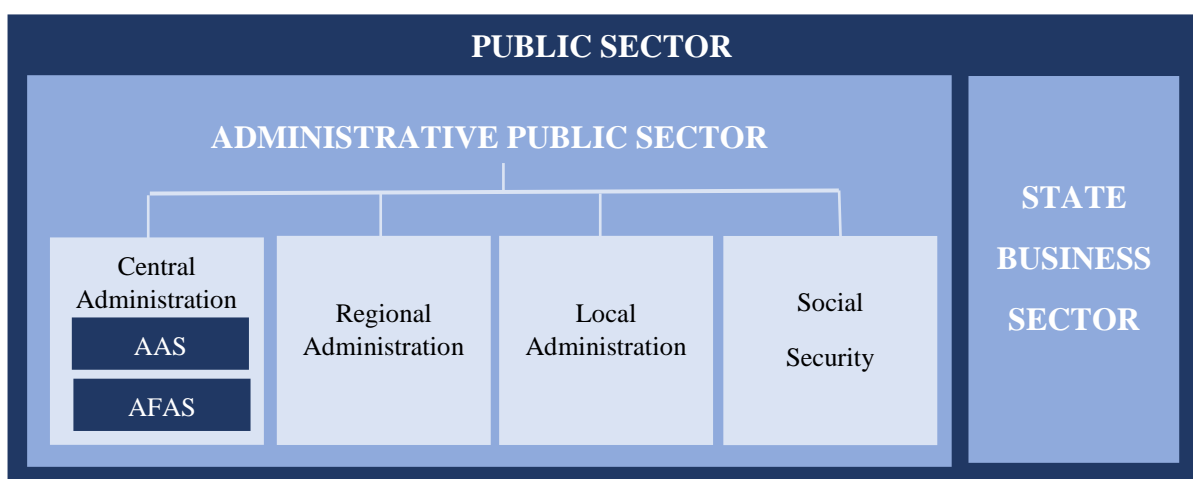


Figure 06: Constitution of the Portuguese Public Sector

All entities mentioned in Figure 06 are designated as contracting entities and may contract in accordance with the contracting regime established in the PPC.

3.3. Laws governing the acquisition of goods and services in the Portuguese Public Sector

The acquisition of goods and services in public entities is governed by the Public Procurement Code (PPC) published by Ministry of Public Works, Transport and Communications (2008), amended and republished by Ministry of Planning and Infrastructure (2017), which "*establishes the discipline applicable to public procurement and substantive regime of public contracts that have the nature of an administrative contract*" in its article 1.

According to Article 1 of the PPC, the principles that must be observed are those of pursuing public interest, impartiality, proportionality, good faith, trust, sustainability, and responsibility, as well as the principles of competition, publicity and transparency, equal treatment, and non-discrimination. Contracting entities must also take measures to prevent any conflicts of interest that may arise and must also ensure compliance with the applicable social, labour, environmental, and gender equality rules under international, European, national or regional law.

According to Article 16 of the PPC, there are different types of procurement procedures to be adopted, depending on the circumstances in which the participating entities are concerned and the subject matter of the contract. If the object covers services that are or are likely to be subject to market competition, entities shall adopt the procedures showed in Figure 07.

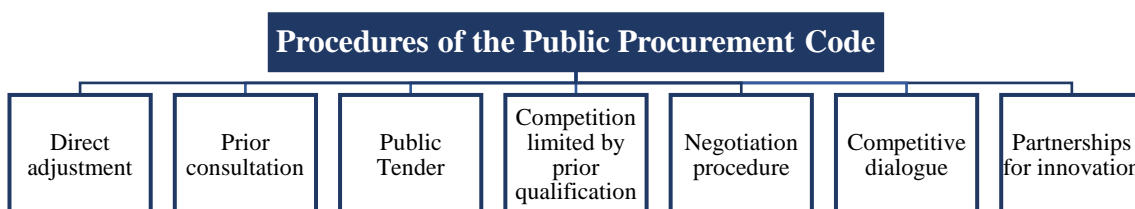


Figure 07: Procedures of the Public Procurement Code

Source: Public Procurement Code

The descriptions and mappings of the public procedures illustrated in Figure 07 are presented in detail, in the next subchapter.

Another important concept to understand is the concept of "most economically advantageous tender". According to Article 74 of the Public Procurement Code, adjudication of the contract shall be carried out according to the criterion of the most economically advantageous tender, based on one of the following:

- a) Best value for money;
- b) Price or cost as a single aspect.

In substantiated cases, the entity that intends to award may choose not to subject the price to competition, provided that a fixed price or a maximum price is set out in the specifications. In case of a tie, the invitation to the procedure shall define the tiebreaker criterion.

3.4. Descriptions and legal mappings of the public procedures

This subchapter intends to mention the concepts of all public procurement procedures and present the mapping of the legal procurement process, often taking place on electronic platforms. The mappings are present from Appendix 1 to Appendix 6.

3.4.1. Direct Adjustment

According to Article 112 number 2 of the PPC, the direct adjustment of general regime is "*[...]the procedure in which the contracting authority directly invites an entity, at its option, to submit a proposal and may negotiate with it the aspects of the execution of the contract to be concluded*". In other words, direct adjustment is a public procedure that allows the contracting authority to choose the supplier it intends to contract to ensure the provision of goods.

For this procedure to be adopted it is necessary to comply with the value criterion, which limits the acquisition value, according to the following parameters (articles 17 to 22 of the PPC):

- For the acquisition or lease of moveable property, or acquisition of services, the value must be less than € 20,000;
- For public works contracts the value must be less than € 30,000;

- For other types of contracts, the value must be less than € 50,000.

The Public Procurement Code, in addition to providing for a general regime, also provides for a simplified regime (Article 128 and 129 of the PPC), which is adopted when the contractual price of acquisition or rental of moveable property or acquisition of services does not exceed € 5,000, and, in the case of public works contracts, it does not exceed € 10,000. As of public works contracts, the execution may not exceed one year from the date of the award decision, nor may the contract price be revised (this one-year time issue is only applicable under this simplified regime for public works; all other procedures may or may not exceed one contractual year).

The procedural mapping of this simplified regime of direct adjustment is very different compared with the direct adjustment of the general regime. It is a procedure that does not need reporting formalities in public platforms. It is consummated when the competent entity that decided to award the acquisition or lease approves the invoice or equivalent document by the invited entity.

3.4.2. Prior consultation

In the prior consultation procedure, the contracting authority directly invites at least three entities of its choice to submit proposals (Article 112 number 1 of the PPC). The choice of the entities to be invited is the sole responsibility of the entity that decided to award the acquisition. It is possible to negotiate the aspects of execution of the contract to be concluded, if expressly defined in the invitation (article 115 number 2a of the PPC).

For the adoption of these procedures there are two criteria:

- a) Value criterion – this is the criterion rule in adopting the prior consultation procedure that limits the value of the contract according to the following circumstances (Articles 17 to 22 of the PPC):
 - Acquisition or leasing of moveable property, or acquisition of services: less than € 75,000 (article 20 number 1c) of the PCC);
 - Public works contracts: less than € 150,000 (Article 19c) of the PPC);

- For other contracts: less than € 100,000 (article 21 number 1b) of the PPC).

Material criterion – allows for the adoption of the prior consultation procedure regardless of the value of the contract to be concluded. To be formalized, it is necessary that the entity responsible for the decision to contract, clearly and objectively defines the conditions established in articles 24 to 27 of the PPC.

3.4.3. Public Tender

The public tender procedure is characterized by the lack of prior qualification of the tenderers, so that the economic operators are ready to submit tenders. It may be adopted whenever the contracting entity decides.

For this procedure, there is an obligation to publish a notice in the Official Gazette, and when the value of the contract to be celebrated is higher than the community thresholds, it must also be announced in the Official Journal of the European Union. For the years 2018 and 2019, the European thresholds shall be as follows:

Contracts of public works contracts		5,548,000.00 €
Contracts for the acquisition or leasing of moveable property or acquisition of services	Contracting entity: State	144,000.00 €
	Contracting entity: not the State	221,000.00 €

Table 01: European thresholds for public tenders

Source: Public Procurement Code

The European thresholds exist for all European contracting authorities to fulfil their obligations in a harmonized manner in accordance with the agreement within the framework of the World Trade Organization.

3.4.4. Competition limited by prior qualification

This competitive procedure, much like the public tender, is also published in the Official Gazette and in the Official Journal of the European Union (where the value of the contract is higher than the European threshold). This procedure is characterized by the existence of two consecutive phases:

- a) Presentation of the applications and qualification of the candidates; and
- b) Presentation and analysis of the adjudication proposals.

Contests limited by prior qualification may be adopted where the contracting authority deems it necessary to assess the technical and/or financial capacity of economic operators. As a rule, there is a minimum financial capacity requirement that cannot exceed twice the value of the contract (Article 165 number 3 of the PPC).

3.4.5 Negotiation procedure

Similarly, to the public tender procedure, the negotiation procedure is also characterized by the existence of a qualification phase, but it has a specific character - competitors who have been previously qualified can improve their proposals at a negotiation stage. However, there are requirements to be met to be able to adopt this procedure (Article 29 of the PPC):

- a) Needs cannot be met without the adaptation of easily available solutions;
- b) The goods or services must include innovative solutions;
- c) It is not possible to award the contract without prior negotiation due to specific circumstances such as its nature, complexity, legal and financial setting, or associated risks;
- d) It is not possible to define precisely the technical specifications by reference to a standard, European technical approval, common technical specifications or technical reference.

3.4.6. Competitive Dialogue

The competitive dialogue is a procedure adopted for situations where the contracting authority does not know how to satisfy the need in question and is thus characterized by the existence of a stage for the presentation of solutions and dialogue with qualified candidates before the tender phase. In this procedure, it is not possible to negotiate proposals from competitors.

The requirements for the adoption of this procedure are the same as the negotiation procedure and are included in article 29 of the Public Contracts Code.

3.4.7. Partnerships for innovation

The partnership procedure for innovation is a procedure for the acquisition of goods, services or public works, subsequently to research activities and developments of these goods, services or public works. However, it is necessary to have a level of agreed prices.

This procurement procedure is carried out when the contracting entity intends to acquire something with certain features, which is not currently available in the market, by finding partners that carry out research and development activities, so that in the future, the result can be acquired.

3.5. Conclusions

This chapter has as main objective the contextualization of the public sector, as theoretical support necessary for a better understanding of the objectives present in this investigation.

The concept of the public sector and the main activities governed by it were introduced, concluding with the presentation and definition of the constitution of the Portuguese public sector.

Subsequently, the law in force in the context of the Portuguese public purchase for public entities was revealed, coming into agreement with the theme of this dissertation. Important topics about this concept were also included such as the procedures to be adopted in the face of a need to acquire goods and services, as well as the method of choosing the proposal to meet the existing need.

Finally, all the conceptual definitions of the public procedures presented previously and the situations in which they are to be adopted, as well as the legal mappings related to each procedure, were clarified.

Chapter 4 – Methodology

4.1. Introduction

The present chapter exposes the identified methodology options to answer the question and objectives of the present dissertation. At the beginning of the chapter, a characterization of the study research is provided (approach, characterization and design of the study), followed by the presentation the methodology steps.

4.2. Case study characterization

There is a gap in the literature to answer the research question - “How can one improve the procurement of goods and services in public entities to make it more efficient, while considering the underlying legal requirements?” - and the most appropriate methodology is the case study, making this research a dissertation per case study (Yin, 2009). This choice is supported by the specific use of three essential characteristics:

- 1) The research question is a "How" and/or "Why" question.

This proposition is validated since the research question begins with the word "How".

- 2) Research should be focused on contemporary events.

This proposition is validated since it refers to a contemporary real-life event - Portuguese public procurement process.

- 3) The investigator has no control over the events being analyzed.

This proposition is validated since this dissertation is developed without control over the analyzed events.

This case study intends to give answers to the research questions mentioned in the initial chapter. According to Yin (2009), this case study has:

- **Descriptive nature:** when all the description of the activities involved in the process of acquiring goods and services is elaborated in some public entities.
- **Explanatory nature:** it is proposed to identify and understand the difficulties experienced by the different stakeholders, as well as to suggest improvement measures.

According to Yin (2009), this is a holistic individual case study, because it addresses the procurement process in a public entity, focusing on a single unit of analysis, the difficulties experienced by the players in the process.

4.3. Overview of research steps

This subchapter presents an overview of the research steps to be followed to achieve the objectives proposed in this dissertation. These steps are summarized in Table 02, together with the tools that are planned to be used on each step.

Step	Description	Tools					
		Data collection tools				Mapping tools	Other tools
		Documentation	Direct observation	Semi-structured interviews	Focus Group		
1	Mapping of the current procurement process	X	X	X	X	X	
2	Identification of the problems and opportunities inherent in the process	X	X	X	X		
3	Proposals and assessment of the improvements to the procurement process	X				X	
4	Validation of proposals for improvements in procurement process						X
5	Final recommendations						

Table 02: Overview of research steps

➤ Step 1 - Mapping of the current procurement process

In the first step, it is intended to elaborate an as-is mapping, i.e., a mapping of the current process. For that purpose, it is necessary to collect data to proceed with the mapping of the entity's procurement process. This data collection is performed using as a basis different data collection tools, namely: direct observation, documentation, semi-

structured interviews to the players in all phases of the procurement process (requesting services, entity that authorizes hiring, coordinators and collaborators of all the services that are necessary to the process), and the focus group, allowing the data triangulation.

The documentation to be studied at this stage as a source of information is the procedures manual in force at the institution, which is known to all the collaborators. Direct observation is a fundamental tool to understand the progress of the procurement process among the coordinators and employees, and if the procedures manual is carried out, so that the mapping is as real as possible.

During direct observation, it will be possible to conduct semi-structured interviews that focus on the daily importance of procurement departments, the relationship between departments, and the way in which employees and coordinators evaluate the institution's procurement process. It is also important in these semi-structured interviews to collect data about the definition of value for each instance involved in the procurement process - entity that authorizes the acquisition, departments that make the acquisition effective, departments that require the acquisition, and financial department and treasury. Involving multiple stakeholders at this stage is considered fundamental to this study, since the perception of value may be different according to the position of these different stakeholders in the process.

Finally, it is also important to carry out a focus group with the departments involved in the activities to complete the purchase, since there may be discrepancies in the operation (they perform different tasks for the same purpose), which must be present in the mapping that will be presented.

Finally, for the construction of the mapping, a tool called flowcharts, more specifically, a functional flowchart will be used. The flow chart appears as a strategic diagnostic tool to implement process improvements.

➤ **Step 2 - Identification of the problems and opportunities inherent in the process**

To start step 2 of the methodology, in terms of documentation it is necessary to consider the code of public procurement in force, since the problems and opportunities that are intended to be analyzed, are the problems and opportunities derived from the

implementation of the law. Furthermore, it is important to conduct direct observation and semi-structured interviews to all stakeholders in the procurement process (requesting services, entity that authorizes hiring, coordinators and collaborators of all services that are necessary to the process).

The direct observation is aimed at the observation of the daily behaviors of the collaborators and coordinators before the difficulties experienced with the legal implementation of the procurement process daily, and the resolution of said difficulties. The semi-structured interviews should focus on questions about the performance of the departments regarding the legislation in force, the autonomy of the institution and every day difficulties experienced in the procurement process. The snowball technique should be used to close the interviews - technique used in social research where the initial participants indicate other participants, which in turn indicate other participants, and so on, until the new interviewees start to repeat the contents already obtained in previous interviews, adding no value to the research (WHA, 1994).

To finish this step, it is important to hold a focus group with the main stakeholders of the procurement process – procurement unit coordinator, financial vice-rector and administrator to elucidate any aspects that have not been clarified during the interviews.

➤ **Step 3 - Proposals and assessment of the improvements in the procurement process**

In this stage, the solutions that have potential to solve the problems identified in the previous step (step 2) are presented. For the elaboration of proposals, it is necessary to establish a connection between all the elements used - literature review, documentation, direct observation, semi structured interviews and focus group. The improvement proposals aim to eliminate the problems detected under step 2, while increasing the efficiency of the procurement process in public entities. Finally, the improvement proposals will be added to the initial situation, to give a new mapping of the procurement process – the so-called to-be mapping.

➤ **Step 4 - Validation of proposals for improvements in the procurement process**

The fourth step is associated with the presentation of the proposals to decision makers in the procurement process. It is also intended to present all the benefits that they can bring to the process of acquisition of the institution, highlighting the waste that is possible to eliminate, and the creation of value that the proposals bring to the departments. This presentation aims to obtain the validity and viability of the proposals suggested in the previous chapter.

➤ **Step 5 – Final recommendations**

In the fifth and last research stage of this dissertation, some final recommendations to improve the procurement process. Particularly, the most advantageous instruments to reduce the difficulties experienced throughout the process with the current legislation are herein presented.

Chapter 5 – Case Study

5.1. Introduction

This chapter presents the results obtained during the research on the difficulties that public entities encounter in their procurement process. This chapter begins with a brief characterization of the public entity under study - ISCTE – Instituto Universitário de Lisboa (IUL), and its entire procurement process is presented and characterized in detail. The difficulties experienced by all the players involved in this process, as well as the proposals to improve these difficulties are then presented below. This chapter ends with a new mapping that includes the improvements and brief conclusions about the case study.

5.2. ISCTE -Instituto Universitário de Lisboa characterization

ISCTE - Instituto Universitário de Lisboa is a public institution in the education area that was created in 1972. It is an institution for the training of qualified staff and specialists, who acquire technical, scientific and cultural skills that make them apt to intervene in the professional field, at national or international level. The principal strategic objectives of ISCTE-IUL are innovation, quality, internationalization and the development of an entrepreneurial culture (ISCTE-IUL website).

ISCTE-IUL states that its mission is to produce and transfer to student's scientific knowledge through international standards, to contribute later to lifelong learning and that this adds economic value, social and cultural development (ISCTE-IUL website). The organization chart of this institution is presented in Figure 08 and described later.

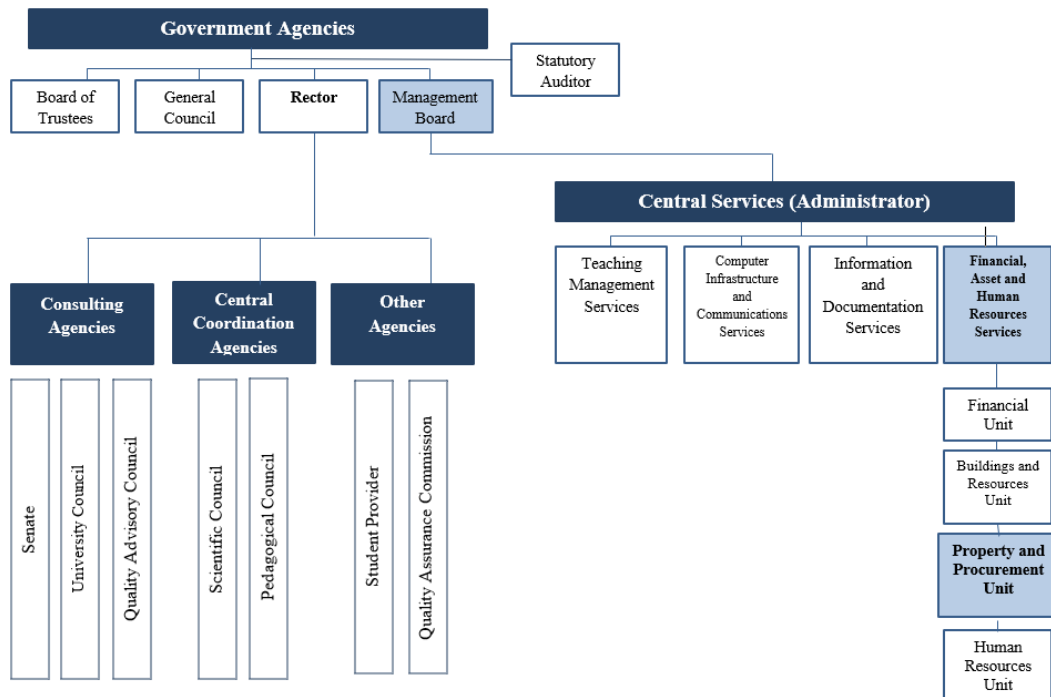


Figure 08: Organizational chart of ISCTE-IUL

Source: Adapted from ISCTE-IUL website

The ISCTE-IUL has at the top of its hierarchy as superior organ of government, the rector, Full Professor, Maria de Lurdes Rodrigues, who represents the entity externally. It divides its participation in the governing entities with the following: Board of Trustees, General Council, Management Board, and Statutory Auditor. The university rector is also assisted by vice-rectors of the following areas: human resources, research, information systems and quality, finance and internationalization.

As we can see in the organization chart (Figure 08), the consulting agencies, central coordination agencies and other agencies are under the domain of the rector, while the central departments answer to the administrator, Francisco Cal.

This dissertation will focus more specifically on the Property and Procurement Unit (PPU) coordinated by Maria Eunice Gonçalves, which is part of the Financial, Asset and Human Resources Service. This service has the mission of ensuring economic, financial, and fiscal management, promoting the management of human resources and managing physical resources (infrastructures and equipment).

Although the focus is mostly on the PPU, there are other departments involved in the ISCTE-IUL procurement process that should be made known. In Table 03, it is possible to visualize the role of each department in the procurement process.

Department	Activity
Services and Cabinets Research Units Schools	Require the service
Rectory	Authorization of expenditure and payments
Property and Procurement Unit Research Units	Make purchases
Financial Unit	Creation of order and payment order
Treasury	Make payments

Table 03: Activities of the departments involved in the ISCTE-IUL procurement process

There are several departments that request the acquisition of goods or services, as well as the existence of two departments that make purchases - PPU and research units. However, the research units do not have the autonomy to carry out all type of purchases, namely purchases of fixed assets, computer equipment, and any purchases above € 5,000.

Finally, it is important to consider the value for the several intervening parts:

- **Departments that require the service:** Product with the intended quality delivered within the intended period or service well rendered intended timeframe.
- **Rectory:** The procedures are carried out according to the law in force, and result in more benefits than in use of resources.
- **Departments that make purchases:** Purchase in accordance with public procurement and within the established deadlines.
- **Financial unit and treasury:** Proceed with payment and delivery of the tax returns within the established legal deadlines.

5.3. Step 1: Mapping of the ISCTE-IUL procurement process

This subchapter presents the main conclusions drawn from the triangulation of data elaborated with direct observation, documentation and semi-structured interviews (interview script in Annex 7), as well as the mapping of the procurement process. The mappings presented refer to the procedures most used by ISCTE-IUL and were divided by value, to be more explicit and perceivable. Accordingly, there is a mapping for purchases below € 5,000 (valid mapping for simplified direct adjustment procedures), and another mapping for purchases above € 5,000 (valid mapping for direct adjustment procedures, prior consultation, and public tender procedures).

The final objective was to understand the difficulties experienced by the different stakeholders in the ISCTE-IUL procurement process.

5.3.1. Data collection: first interview

The semi-structured interviews were conducted with multiple stakeholders. The sample consists of 32 people, with distinct functions and activities in the procurement process and it is described in Table 04.

Department	Number of respondents	Players
Rectory	3	Administrator Former Administrator Deputy Chief Financial Officer
Property and Procurement Unit	4	Coordinator Collaborator (3)
Financial Unit	5	Coordinator Collaborator (4)
Schools	4	ESPP – Collaborator (1) ESCH – Collaborator (1) IBS – Collaborator (1) ISTA – Collaborator (1)
Research Units	8	BRU – Collaborator (1) DINÂMIA – Collaborator (2) ISTAR/IT – Collaborator (1) CIES – Collaborator (1) CIS – Collaborator (2) CEI – Collaborator (1)
Services and Cabinets	8	ICIS – Coordinator (1) Library– Collaborator (1) UBR – Coordinator (1) HRU – Coordinator (1) IRO – Coordinator (1) SAS – Coordinator (1) CSA - Coordinator (1) CMO – Coordinator (1)

Table 04: Sample constitution

According to the answers gathered during these interviews, the ISCTE-IUL purchases were recognized as very important to the organization for many aspects. The aspect most identified by the sample was "without the procurement unit it is impossible for the institution to develop its activity", because the purchase of goods and services is inherent to the daily needs of the services, schools and offices of the organization. Another aspect mentioned was the savings, i.e., the procurement seeks, through negotiation, to save as much money as possible, since it is an institution that generates millions of euros.

The sample was asked to identify whether they perceive about the complexity of procurement process of the organization (Table 05):

Procurement process	Number of mentions
Normal process	12
Complex process	16

Table 05: Number of people who identified the normality or complexity of the procurement process of ISCTE-IUL

As it can be seen from Table 05, most of the parties involved in the procurement process believe that the process is complex. Several reasons were used to justify this complexity: (a) government control over public entities; (b) many different financial classifications; (c) high amount of bureaucracy; (d) little knowledge of the purchasing area, especially the laws inherent to the hiring process; (e) extensive information circuits; (f) time-consuming process; (g) tight legal limits; and (h) more problems than benefits.

The part of the sample that refers to the normalcy of the process, are the schools and some services that participate in the procurement process as initiators of the process, i.e., they are the ones who issue the expense note that starts the ISCTE-IUL procurement process.

After analysing the first interview conducted, it is concluded that improvement adjustments are necessary to make the process more fluid, increasing its efficiency, creating value for all stakeholders and reducing possible procedural waste.

5.3.2. Mapping and describing the procurement process for values equal to or less than € 5,000

As shown in Chapter 3, the acquisition of goods and services under € 5,000 is made through simplified direct adjustments, where the mapping of the procurement process is simple (Figure 09).

The process begins with the service request, and this request can be for the acquisition of a service or good. This acquisition thus begins with an application for internal authorization which will be approved by the person responsible for the sector requesting

the service. This application will then continue to receive higher authorization, namely, authorization by the administrator of the institution.

The request for expenditure is received by the PPU only if the administration authorizes it, and without such an authorization no purchase of goods or services is made by the institution.

After authorization, and to determine prices of materials or services, the PPU proceeds with market consultations, negotiation with suppliers and, after those activities, it chooses the best market proposal. This unit is also responsible for choosing the procedure that best fits the light of the Public Procurement Code (see Chapter 3).

Selecting the supplier for this type of procedure always reflects the experience of the unit. Selected suppliers are those who have shown more satisfactory performance, ensure compliance with the requirements, demonstrate great responsiveness, and flexibility in negotiation. New suppliers may be selected by this unit, if it is deemed appropriate in the execution of the procedures that need to be adopted.

After the negotiation, the procurement process in SAP - ERP used by the institution - begins with the creation of an expense process number and a purchase requisition. The purchase requisition is sent to the financial unit for issuing budgetary approach, and then a commitment is generated by the property and procurement unit.

At this point, the purchase requisition already has the budgetary approach and commitment that are necessary for issuing a purchase order (order form) which is sent to the supplier by the system.

As soon as the supplier receives the purchase order and provides the service or delivers the requested goods, it can issue its invoice and the non-debt declarations (social security and finance) received by the PPU. After the invoice has been registered, a payment authorization is created, and an invoice payment order is issued by the financial unit. The invoice will be paid by the treasury within a maximum period of 60 days.

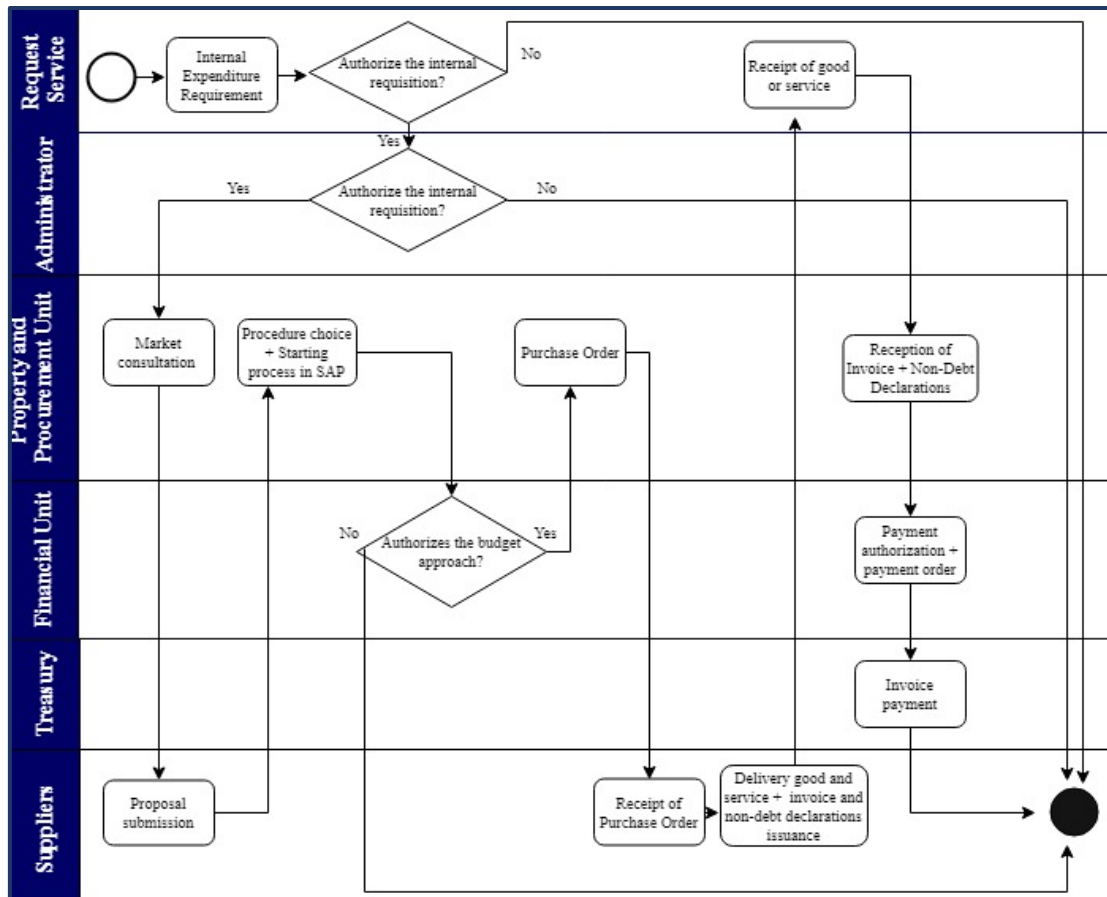


Figure 09: Mapping of the procurement process equal to or less than 5,000 € in ISCTE-IUL

5.3.3. Mapping and describing the procurement process for values above 5,000 €

Unlike the simplified direct adjustment, there are purchases of goods and services over € 5,000, where it is necessary to use a public platform - VORTAL - being this a more complex procurement process which uses other procedures (Figure 10).

In purchases of goods and services above € 5,000 the preparation of an internal authorization is required, specifying the technical specificities of the goods or services to be acquired, as well as an estimated value for the expenditure. Usually, this authorization is performed by an area superintendent, to prevent any errors in the request to be made.

As before, the request for expense must be authorized by the coordinator of the requesting entity and by the administration.

The expense note authorized by the administrator, arrives electronically at the PPU that proceeds to the creation of the process number of expense and purchase requisition in

SAP. The requisition will be sent to the financial unit for issuing the budgetary approach.

After preparing the budgetary approach, the PPU initiates the procedure on the VORTAL electronic platform - with the introduction of the invitation and terms of reference - where there is direct communication with interested suppliers. During the period in which the process is open on this platform, suppliers can request clarifications, submit lists of errors and omissions, and submit their proposals.

In these procedures, it is mandatory to include a jury that will analyse the applications aiming to: i) clarify doubts of suppliers, ii) examine applications, iii) prepare reports on the analysis of applications and proposals, and finally, iv) prepare the final report with a selected proposal that will be validated by the coordinator of the PPU, and later authorized by the administration.

After the award and respective authorization by the administration, a contract is signed between ISCTE – IUL and the contracted company. Two signed copies of the contract are sent by mail to the supplier created by the PPU (one will be returned later, to be entered in the institution's archive, the other will be for the supplier). There is a possibility that the contract may not be put into paper, according to article 95 of the Public Procurement Code.

The contract signed between the two entities describes how the payment of the good or service provided should be made, and the associated period of execution. The supplier proceeds to the delivery of the goods or to the provision of the service, and, if it pertains to goods, the respective delivery note must be delivered. If it pertains to services, a document must be generated regarding the rendering of the service.

According to the contract, the contracting entity issues the invoices that will be received and registered by the property and procurement unit. Finally, the financial unit proceeds to create a payment authorization and gives the treasury its payment order. The treasury will pay the invoice within a maximum period of 60 days.

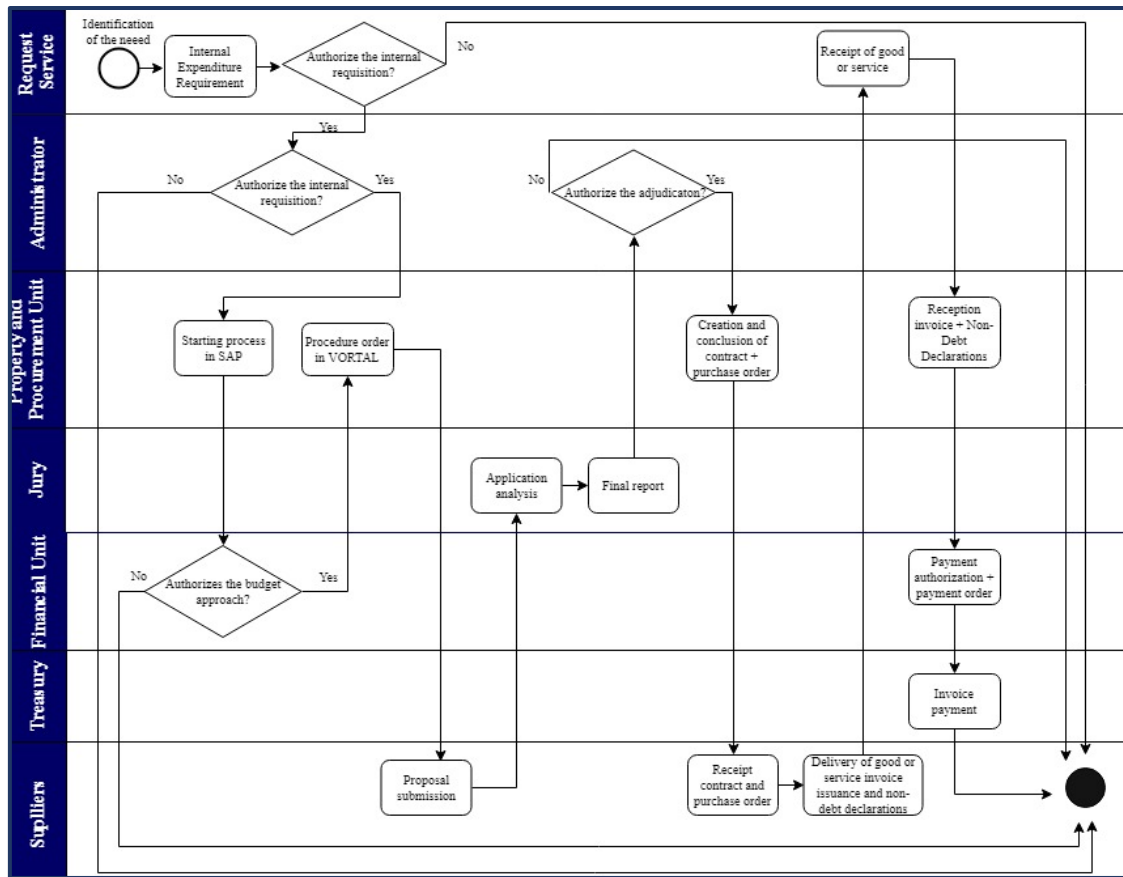


Figure 10: Mapping of the procurement process above 5,000 € in ISCTE-IUL

5.4. Step 2: Difficulties experienced in the execution of the procurement process

A second interview was carried out on the same sample, previously mentioned, and a focus group with key stakeholders was also performed (interview script in Annex 8). After using these two tools to collect data, it is possible to identify the problems and opportunities of improvement that arise within the legal framework of the procurement process.

5.4.1. Data collection: second interview

It was frequently mentioned by the sample that the procurement process becomes complex because the entity belongs to the public sector. For this reason, it would be important to understand the stakeholders' opinions about the implication of the Portuguese legislation, specifically the implication of the Public Procurement Code in the process of acquiring goods and services in ISCTE-IUL.

After being questioned on the subject, the opinion of the sample was that the current legislation affects the performance of the procurement activity of the institution. However, respondents felt that, despite all the restrictions, the procurement department always met expectations, being faster or slower in their process. The ISCTE-IUL has administrative and financial autonomy, and the interviewees were questioned about the possibility of losing this autonomy. Many believe that the entity loses its autonomy by the application of Portuguese public legislation, and that it is possible to have flexibility without losing autonomy within established legal limits.

5.4.2. The procurement process: difficulties and opportunities

From the construction of the flowcharts and the answers gathered during the interviews, it was possible to identify several problems and difficulties experienced by the participants in the procurement process, namely difficulties in everyday activities due to the use of the Public Procurement Code.

In Table 06, a match is made between the difficulties experienced and the waste associated with them, as well as the identification of the number of times the problem was mentioned during the interviews conducted.

Difficulties	Number of mentions	Duplication	Processing inefficiencies	Delays	Mistakes
High amount of bureaucracy	14			X	
Always choose the "most economically advantageous"	09		X		
Time-consuming process	14		X	X	
Tight legal limits	13		X		
Many people involved in a single process	10	X	X	X	X
Loss of negotiation with suppliers	08		X	X	

Table 06: Waste identified in the ISCTE-IUL procurement process

➤ **High amount of bureaucracy:** The difficulty most felt by the interviewees was the existence of high amounts of bureaucracy throughout the procurement process. Bureaucracy implies authorizations, original documents, non-debt declarations, and accessing the electronic platform. All these documents that are needed take time to be produced, verified and authorized, and therefore lead to a relatively long waiting time.

➤ **Always choose the "most economically advantageous":** According to Article 74 of the Public Procurement Code, the award is made based on the most economically advantageous proposal for the contracting entity.

However, many respondents say that it is not possible to choose the supplier that best suits the contracting authority. The above criteria often result in the elimination of suppliers who are best suited to the service/product on many other criteria/factors. This presented difficulty leads to the possibility of an inefficient process, since the choice does not fall on the option desired by the requesting department.

An example is exposed for better understanding in the delivery of a good to an event. PPU asked for quotes from 3 suppliers - X, Y and Z. Supplier X has submitted the most economically advantageous tender and has been chosen although PPU knows that supplier Z has a better level of delivery and performance time than supplier X.

➤ **Time-consuming process:** One obvious problem is that the public procurement process is very time-consuming by a variety of factors which are detailed below:

(a) It is impossible to buy immediately.

On the morning of August 1, 2018, the requesting department needs to reserve a lunch for the same day. It is not possible to do so immediately, since from the time of writing the expense note to the time of the reservation of the service, the response time is exceeded.

(b) Many departments are involved in the same process.

During the procurement process in this public entity, the presence of 6 departments (7 if there is a jury) is necessary. If a department is late for its function, it will delay the entire process, and it will postpone functions from the next department.

(c) Many steps should be followed in the same process.

During the procurement process, several steps that are time consuming must be met, leading to increased waiting times and delays. An example is the request of the non-debt declarations to the suppliers (these declarations last only 3 months); until these declarations are sent, it is not possible to issue the payment order, and the whole process is in standby.

(d) Long legal procedures.

Electronic procurement platforms require deadlines, which can last for days.

The fact that the process is long and time-consuming leads to longer waiting times between the process steps. Waiting time leads to lower employee productivity (because some employees may need to wait for the others before being able to proceed with their own activities), and failure to respond to timely needs.

➤ **Tight legal limits:** Another of the difficulties most felt by the collaborators is undoubtedly the existence of legal limits in the direct adjustment procedure and in prior consultation, most of it being tight for the activities that the entity needs to develop. Particularly, the contracting entity may not invite proposals from entities that in the current fiscal year and the previous two years have had contracts whose sums exceed the following values:

- a) 20,000 € if pertaining to direct adjustment (Article 113 no. 2 and Article 20d of the PPC);
- b) 75,000 € if pertaining to prior consultation (Article 113 no. 2 and Article 20c of the PPC);

A practical example of this difficulty is the purchase of a travel service. For entities in the education sector, travel is frequent in training and conferences, and it is a service typically associated with high costs. If the entity resorts to direct adjustment the limit is exceeded in a few months, because the limit is low; but if you resort to prior consultation there is the difficulty of managing quotes from travel agencies invited to submit a proposal (the quotation of travel agencies last in average 24h, but it is impossible to predict the response date of the invited entities, and the first response may be the most feasible, but it will probably have to be changed by the date of the last response received).

The process becomes inefficient since the recurrent demands for travel agencies makes it impossible for the need to be met in the desired time frame.

- **Many people involved in a single process:** The acquisition of goods and services at ISCTE-IUL involves 5 departments, which translates into many people involved throughout the process. This difficulty contributes to the emergence of several wastes such as duplication, inefficiency of processes, errors and delays.

The fact that many people are facing the same occurrence can cause errors in the tasks, since the information may not reach all the departments involved. The delay in the execution of the functions of a department soon causes an increase in the delay on the completion of the process, increasing the procedural cycle.

It is also possible to identify two more wastes: inefficiency processing, which is evident by several people in the same department performing the same tasks in the same procurement process, and duplication, when there are repeated tasks to be performed.

These wastes contribute a lot to reduce productivity, low process fluidity, and inefficient flow of information.

- **Loss of negotiation with suppliers:** PPU and research centres state that being in the presence of a public entity makes it difficult to negotiate with suppliers for the following reasons: (a) payment is not made immediately upon delivery of the product or service rendering (the requesting entity has up to 60 days to make the payment - Article 299 of the PPC); (b) if the purchase exceeds € 5,000, it is necessary to use an electronic platform, and suppliers not registered in this platform need to incur in expenses in the purchase of stamps; and (c) many documentation requirements. This difficulty presents a clear waste when evidenced – duplication. Negotiation with suppliers is one of the most crucial factors in the purchase, and therefore, the difficulty of negotiation makes the process little fluid and the explanations about the negotiation affect the productivity of the collaborators.

It is important to note that all the mentioned wastes lead to the conditioned productivity of the workers, which does not favour the fluidity of the procurement process nor the satisfaction of the employees in their work environment, and these factors are the key to the success of a good purchase.

The most frequently reported waste was the processing inefficiencies because the procurement process is not being developed in the best way generating inefficiencies by legislative requirements.

5.5. Step 3: Proposals and assessment of the improvements in the procurement process

In this subchapter, three proposals for improving the public procurement process are presented, aimed at reducing the waste identified previously. It is important to mention that the proposals aim to respond to problems generated by the need to follow legally established procedures rather than by internal procedures.

Proposal 1: Higher flexibility in the direct adjustment procedure:

Through the direct observation made to the procurement process and the people who perform it, it was possible to identify that the greatest concern is the existence of rigid legal limits in the most usual procedure - direct adjustment.

As described above, it is not possible to award to entities that have already been awarded in the current fiscal year as well as in the previous two, in the amount of € 20,000 (Article 113 no. 2 and Article 20d of the PPC).

An alternative to awarding this entity would be the application of prior consultation up to a maximum amount of € 75,000 (see Chapter 3), however it is impossible to predict the winning supplier of the most economically advantageous tender, and the waiting time would increase, since it is necessary to request proposals from at least three different entities.

Within this setting, it is proposed an increase in the flexibility in these legal limits, without undermining the effectiveness of the organization. This flexibility could be achieved following two alternatives:

- a) Increasing the monetary value of the limit; or
- b) Reducing the fiscal period inherent to this limit.

In other words, two options are proposed to increase flexibility in legal terms, making proposals to amend the law, as described below:

OPTION 1

Article 113 number 2 - They may not be invited to tender, entities to which the contracting authority has already awarded, **in the current economic year and in the two previous economic years**, following prior consultation or direct adjustment adopted pursuant to the provisions of sub-paragraphs c) and d) and Article 20 number 1 c) and d), as the case may be, tenders for contracts whose contractual price is equal to or greater than the limits referred to in those points.

Article 20d) Direct adjustment, when the contract value is less than **€ 47,500**.

OR

OPTION 2

Article 113 number 2 - They may not be invited to tender, entities to which the contracting authority has already awarded, **in the current economic year and in the last financial year**, following prior consultation or direct adjustment adopted pursuant to the provisions of sub-paragraphs c) and d) and Article 20 number 1 c) and d), as the case may be, tenders for contracts whose contractual price is equal to or greater than the limits referred to in those points.

Article 20d) Direct adjustment, when the contract value is less than **€ 20,000**.

In the past, according to Finance Ministry (2012), the choice of the direct adjustment procedure was only possible for contracts under € 75,000. Today, according to the new amendment promulgated by Ministry of Planning and Infrastructure (2017), of August 31, it is only allowed to choose the direct adjustment for contracts of less than € 20,000. The choice of € 47,500 as the maximum value for option 1 is explained by the average

value between the € 75,000 mentioned in the previous Decree-Law and the € 20,000 mentioned in the current Decree-Law.

The following table (Table 07) shows the monetary difference spent with a given supplier X in two different periods (withdrawn from entity SAP system). The period from 01/01/2016 to 15/08/2018 concerns the period relating to Article 113 number 2 and Article 20d) of the Public Procurement Code, while the period from 01/01/2017 to 15/08/2018 refers to the new proposed period.

	01/01/2016 to 15/08/2018	01/01/2017 to 15/08/2018
Supplier X	36,955.80 €	20,143.88 €

Table 07: Comparison of the amount spent in two different periods with supplier X, as of August 15, 2018

It is possible to verify that there is a large discrepancy in monetary value between the periods described. Although both values are exceeding the legal limit of € 20,000, some points are exposed:

- The first period presented (legal period in force) exceeds by more than 15,000€ the legal limit imposed;
- The second limit (proposed limit), although exceeded, is a limit closer to 20,000€.

In the case of the implementation of option 1, supplier X could be chosen, since it would not exceed the maximum limit of € 47,500 in the fiscal periods that elapses this year and the previous two. In case of option 2, supplier X could not be chosen for a minimum difference, since the value of € 20,000 is exceeded for the period from the first day of 2017 to the date of August 15, 2018.

This first proposal presented, if implemented, would result in some positive implications for the procurement process, namely in increasing the satisfaction of the final customer, because of its need to be satisfied faster, avoiding the opening of a prior consultation procedure. This proposal would also contribute to the increase of the value described by the units that make the purchases - purchase in accordance with public procurement and within the established deadlines -, since they have greater flexibility to

fulfil the public procurement and the deadlines established in the expenditure request. For the other instances - departments that require the service, rectory and financial unit and treasury, the creation of value is not so clear and visible.

Proposal 2: Delegation of competences: For the purchase to take place, all purchase orders made by schools, departments, offices or research centres must be authorized by the administrator of the entity. With the large numbers of expenditure requests arriving daily at the administration's office, it becomes unfeasible for this competence to rest entirely on the same person for two reasons: (a) impossibility for the administrator to perform other tasks; and (b) the delay in the authorizations leads to the increase of the waiting time in a step of the procurement process.

Article 109 of the PPC states that "*All powers conferred by this Code on the entity competent for the decision to contract may be delegated*", i.e., it is possible for the administrator to delegate powers, and essential to reduce waste such as the presence of a high amount of bureaucracy, the existence of several people in the same process, and the fact that the process is very time-consuming.

This proposal could begin with a pilot project, allowing the directors of the research centres to obtain the delegation of powers to authorize the purchases inherent in their research centres up to a maximum limit of € 5,000. The choice of the research centers is because they do not have full autonomy in the purchase of less than € 5000, namely in the purchase of fixed assets and computer equipment. With this gain of autonomy, it would be possible to withdraw two departments from the procurement process - the property and procurement unit and the administration, which had the functions to carry out the purchase and to authorize the purchase, respectively.

Thus, it is possible to design a new mapping projected for the research units only for simplified direct adjustments, which introduces new activities for the research units, and completely withdraws the presence of two departments (Figure 11).

It is possible to present the differences with respect to the as-is mapping previously designed (see Figure 09), namely in the research centres.

- a) The research units, in addition to their activities and functions, accumulate the activities and functions of the PPU; and

- b) The administrator is removed from the mapping, electing the coordinator of the research centre as holder of powers to authorize expenses below € 5,000.

The financial unit and treasury maintain the functions and activities relative to the previous as-is mapping (see Figure 09).

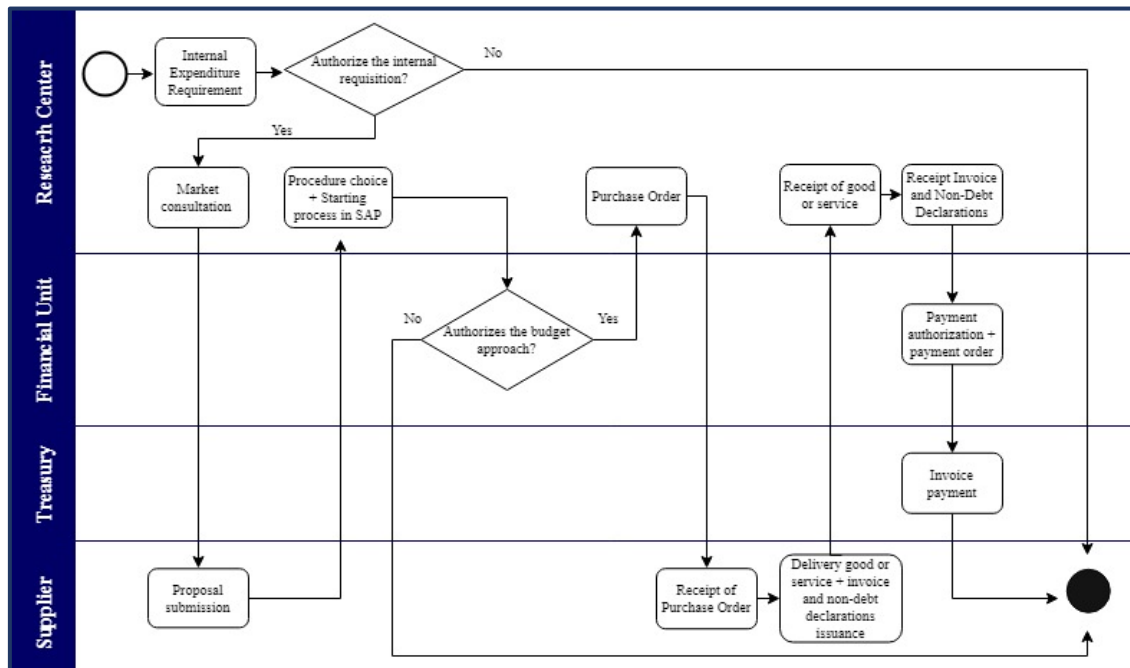


Figure 11: New mapping for simplified direct settings for the research units

This second proposal creates value for three of the above-mentioned departments - departments that require the service, rectory, and departments that make the purchase. For the rectory, more specifically for the administration, the benefit is clear, since they optimize the functions they have, not conflicting with other departments by not sending authorizations in due time due to the huge volume of expenses to be authorized. As for the department that requires the purchase and the department that makes the purchase will be the same - research units, the cycle will be optimized since almost the entire procurement process will be overseen by this unit, not having to incur in waiting times, derived from various delays in other departments. The increase in value for the financial unit and treasury is also of high potential, since if the whole process is faster, the unit can deliver tax returns and make payments in a timely and correct manner, however it is important to have in mind that it will be only for these proceedings, other proceedings in progress may incur delays, and thus tax declarations may run the risk of not being delivered within the legally established deadlines.

This proposal would allow a reduction in the volume of expenditure requests that arrive at the administration and give a rapid flow to the requests of the research centres, considerably reducing the waiting time between stages of the procurement process of the organization.

Proposal 3: Autonomy in the management of expenses coming from own revenue

According to Ministry of Science, Technology and Higher Education (2009), ISCTE-IUL started to have a founding regime, enjoying property and financial autonomy. As referred to in Chapter 3, organizations have their own revenue, although there are annual budgetary allocations owed by the State. However, all expenditures in the organization are controlled and governed by existing public-sector laws.

In one of the semi-structured interviews carried out, namely the financial vice-rector, there was an exchange of ideas regarding the management of the institution's expenditure and revenue, and it was concluded that the concept of "autonomous expenditure management " would be of practical use (only for expenditure from own revenue).

The objective of this proposal would be the autonomy management of part of the expenditure that comes from own revenues. With the implementation of this proposal, ISCTE-IUL would not need to respect the law of public procurement and legal limits, as well as the choice of most economically advantageous proposals. Processes would become faster due to the absence of high amount of bureaucracy, and negotiation with suppliers would be easier, avoiding losing good suppliers by characteristics and impositions of the contracting authority.

In terms of value creation, this proposal has the potential to increase value in all instances - departments that require the service, rectory, departments that make the purchase and financial unit and treasury. Departments that make the purchase would not need to resort to PPC law and would be able to choose the supplier that best suits the type of goods / services required by the requesting departments. Thus, it would be possible to shorten the procedural cycle, since it is not necessary so many bureaucratic activities that are legislated, increasing the benefits that the purchase brings (increase of value for the rectory). For the financial unit and treasury, the creation of value is also present, that is, payments and tax returns will be assured in a timely manner as the cycle decreases; however, this creation of value for this unit is only for this specific group of

expenses, since the tax declarations are delivered together (all expenses, not only the expenses that come from own revenues).

It should be noted that this proposal is the most difficult to achieve and to implement because there are several limitations - the key limitation would be the choice and fixation of the expenses that would be incurred under this new regime.

A table summarizing the impact that the proposals will have on tackling the difficulties identified is presented below (Table 08).

Difficulties	Proposal 1	Proposal 2	Proposal 3
High amount of bureaucracy	NA	+	++
Always choose the " most economically advantageous"	NA	NA	+++
Time-consuming process	NA	+++	++
Tight legal limits	+++	NA	+++
Many people involved in a single process	NA	+++	NA
Loss of negotiation with suppliers	NA	NA	+++
Legend: +++: significant impact; ++: medium impact; +: insignificant impact; NA: no impact			

Table 08: Impact of the proposals on improving the difficulties found in the procurement process

It is possible to verify that no proposal has an impact on all the difficulties encountered. However, in the possibility of applying the three proposals, duplication, processing inefficiencies, delays and mistakes will be reduced, which would increase the efficiency and effectiveness of the process, benefiting the entire value chain inherent in the public procurement process (Table 09).

Proposals	Departments that require the service	Rectory	Departments that make purchases	Financial Unit and Treasury
Proposal 1	No	No	Yes	No
Proposal 2	Yes	Yes	Yes	Yes/No
Proposal 3	Yes	Yes	Yes	Yes/No

Table 09: Impact of the proposals presented in the creation of value for the diverse levels of the value chain

5.6. Step 4: Validation of proposals for improvement in the procurement process

Once the data were collected and improvements were suggested to eliminate waste, it is intended to identify the viability and validity of the proposals together with the group of key decision makers in the ISCTE-IUL procurement process.

The viability assessment is intended to predict a possible success or failure of a project; in this specific case, it is intended to verify the viability in the long term, since the proposals need to be analysed by the higher entities of the company and the state. In the case of the validity study, it intends to identify if the proposals are useful and capable of producing the expected effects.

The group of key decision-makers in the ISCTE-IUL procurement process is composed by the administrator, the coordinator of the property and procurement unit and the financial vice-rector. This validation would be ideally based on a focus group, but such a focus group was not possible due to the agenda and priorities of each one. Therefore, an individual meeting was held with each decision-maker where it was possible to evaluate the validity and feasibility of the proposals presented. At each of these meetings, all the proposals drawn up were presented, as well as all the advantages and disadvantages they would bring to the institution in the future.

The first proposal was identified as valid and viable by the stakeholders mentioned above. The amendment of the law to the maximum value (from €75,000 to € 20,000) of the contract in direct adjustment had a negative influence on the execution of the ISCTE-IUL procurement process, limiting contractual amounts. The group of decision-makers in the ISCTE-IUL procurement process identified Proposal 1 as viable and feasible in the future, but they know that the possibility of implementation is reduced – as it is a readjustment of the law, it would require state approvals and the analysis of future implications in the entities governed by the Public Procurement Code.

Proposal number 2 was validated and considered feasible by the administrator, the coordinator of the property and procurement unit and the financial vice-rector. The elimination of one of the main wastes - a time-consuming process - brought a great deal of willingness to implement this proposal at ISCTE-IUL. The involvement of fewer people, namely the exclusion of the PPU and the administration of the internal procedures allow the reduction of resources, which will always be an advantage for the institution. The administration also stated that after the implementation of the pilot

project, and if there is a significant increase in benefits, it would be interesting and feasible to extend the delegation of powers to all the goods and services considered as investments made by the research centre, if funding is available, on purchases of less than € 5,000.

Finally, the third validated proposal was considered useful and of great interest, but the most complicated to manage within the institution. It is public knowledge that there are two types of income in ISCTE-IUL: own revenue and income from state funding. However, own revenue is managed in the same way as the State's funds, and there is high amount of bureaucracy and restrictions on revenues and funds in the institution's expenses. According to the group of decision-makers, the implementation of this proposal would be impracticable, since it entails a verification of all annual and multi-annual expenditure and sets out expenditure which would be excluded from the public procurement scheme. Subsequently, a transposition would have to be made to the SAP system. In addition, it was mentioned that the law would need to be more explicit in relation to the procedures to be adopted in the management of own revenues for entities that have administrative and financial autonomy.

In conclusion, the penultimate stage described in the methodology was successfully completed, since the proposals presented, although not all feasible, were all validated by the main decision makers of the ISCTE-IUL acquisition of goods and services.

5.7. Step 5: Final recommendations

The literature review chapter mentioned the potential of lean thinking in process improvements, with emphasis on value creation and waste reduction. As such, the focus of this dissertation was the evaluation of the difficulties on implementing the law to the internal structure of a public entity, in this case ISCTE-IUL. After gathering data about the difficulties experienced daily by the various stakeholders of the organization's procurement process, an analysis was made on the wastes found in that process, and a match between difficulties experienced and services waste was performed later (shown in Table 06 of subchapter 5.4.2).

Three process improvement proposals were suggested that eliminate the waste identified in the process - duplication, process inefficiencies, errors and delays. Although all

proposals have been considered valid and of a useful and viable nature by a group of key decision makers, not all are easy to apply for a variety of reasons.

Using the proposition of "priority treatment", it is considered advisable to prioritize the difficulties that have been identified by a larger number of people, i.e., high amount of bureaucracy and time-consuming process. Referring to the suggested proposals, and according to Table 08 of subchapter 5.5, to meet these difficulties the proposals to be applied would be the second and third proposals. However, the third proposal was considered difficult to manage and implement.

Another difficulty strongly mentioned was that the limits imposed by the law of public procurement are too rigid. This difficulty can only be remedied by amending the law which is currently in force and which is evident in the Proposal 1.

Within this scenario, it is still possible to reflect on the value creation that is a fundamental aspect when speaking of lean philosophy. Not all the suggested proposals create value for all stakeholders in the procurement process (see Table 09 of subchapter 5.5), but the positive impacts are evident. It should be noted that Proposal 2 and Proposal 3 have a positive impact on all hierarchical entities.

Therefore, it is possible to conclude with the recommendation that Proposal 2 should be the first to be implemented since it is easy to apply, feasible, and useful, but also brings with it the removal of three of the six wastes identified (Proposal 3 was considered to be useful and interesting but difficult to apply, despite eliminating most of the identified wastes). In addition, the benefit to the entire value chain is high, providing value creation to all stakeholders in the ISCTE-IUL procurement process.

Finally, it is important to note that there is no imposition of rules on lean implementation in an organization, since each organization has its own implementation time and its own culture (Radnor and Johnston, 2013). Thus, it is important to emphasize the importance of applying basic tools and techniques at an early stage of implementation, so that each entity incorporates lean thinking into their culture.

Chapter 6 – Conclusions

6.1. Introduction

This concluding chapter presents the main conclusions that emerged during the investigation, trying to answer the questions and objectives initially exposed. After revealing if the objectives were reached and the research question answered, it is intended to present the limitations that the study had, as well as the difficulties felt by the public agencies in the procurement process. This dissertation ends with the presentation of suggestions for future research.

6.2. Objective analysis

The main objective of this dissertation was to analyse the difficulties experienced by various stakeholders in a public procurement process to evaluate possible solutions for the procurement process in the public sector. Several methodologies for improving procurement processes were investigated, concluding that lean thinking principles could convey more efficiency gains to the procurement processes, without compromising the efficiency of the same process.

According to the scope of this dissertation, it is intended to evaluate if the objectives, defined in chapter 1, were achieved in the development of the purpose of this dissertation.

- a) Mapping the public procurement process: This objective is described in Subchapters 3.4; 5.3.2 and 5.3.1 with the application of flowcharts.
- b) Identifying the difficulties experienced by stakeholders during the procurement process with current legislation: During the semi-structured interviews and direct observation it was possible to identify problems / opportunities that are identified in Subchapter 5.4.
- c) Proposal of improvements with potential to eliminate and/or reduce the difficulties experienced in the procurement process: This objective was successfully achieved, because the opportunities for improvement leading to the elimination of waste have been suggested in Subchapter 5.5.
- d) Evaluation and validation of proposals: The improvement proposals were evaluated and validated successfully. The evaluation and validation are described in Subchapter 5.5 and 5.6.

- e) Final recommendations for improving the public procurement process:
Subchapter 5.7 summarizes the potential of the submitted improvement proposals, completing this objective.

According to the analysis made in this subchapter, it is possible to conclude that the objectives set for the development of this dissertation have been accomplished.

6.3. Research question

During the development of the present investigation the question of research mentioned in chapter 1 was answered.

How can one improve the procurement of goods and services in public entities to make it more efficient, while considering the underlying legal requirements?

To answer this question, it was necessary to analyse the internal procurement process of the public entity, as well as the legal process translated into the Public Procurement Code. It was also essential to identify the value perception, present in Subchapter 5.2., for the distinct levels of hierarchy of the procurement process, to be able to suggest proposals that would increase this perceived value. The use of flowcharts, informal interviews and the reading of documentation allowed the identification of waste and the suggestions for improvements in the public procurement process, using lean tools and techniques.

To improve the procurement process of goods and services in public entities considering the underlying legal requirements, three proposals were elaborated: (1) greater flexibility in the direct adjustment procedure, (2) delegation of competences, and (3) autonomy in the management of expenses coming from own revenue.

Although suggested improvement solutions have not yet been implemented, Subchapter 5.5 highlights the potential benefits to the public entity, if implemented. Furthermore, if the wastes identified in Subchapter 5.4.2 were removed, such as duplication, processing inefficiencies, delays and mistakes, total cycle time would decrease, which would increase the efficiency, clarity, and accuracy of the procurement process, benefiting the entire value chain.

It is considered that the objective was reached, and it is possible to state that the efficiency and effectiveness of the procurement process analysed could achieve benefits with the use of lean thinking, as shown by the improvement proposals presented.

6.4. Limitations of research

According to Yin (2009), scientific generalization is one of the final objectives of the applicability of the case study methodology. The validity of the results of this dissertation applies only to ISCTE-IUL, preventing the generalization of results for public entities.

During the data collection period, legal times and internal times were not measured, which represents a limitation in the implementation of the proposals, since it is not possible to quantify the expected improvements in the decrease of waiting times between stages of the process with the future implementation of the proposals. However, the focus was to identify all residues present throughout the public procurement process and to propose solutions for the improvement of said residues. The inherent principle was to focus on the main objective of identifying all the residues and not to explore only one of the residues identified - waiting time.

Although the improvement proposals were not implemented, they were validated by stakeholders from the higher hierarchies as viable and achievable proposals. However, the implementation of Proposal 1 and Proposal 3 required validations at state levels and is therefore considered a limitation to the results of this research.

6.5. Proposals for further research

After the main conclusions have been withdrawn and the main limitations that have occurred during the present investigation are suggested, proposals for future research are suggested.

Following up on this dissertation would be relevant and interesting to analyse the legal waiting time of public procurement procedures, to see if this waiting time affects the efficiency and effectiveness of internal processes of contracting entities.

It would also be interesting to perceive the difference in monetary terms resulting from the change of legislated values in each period in a public organization to understand the impact that the law has on the results of an entity.

The application of a balanced scorecard to analyse new improvement strategies to measure business performance with measurable indicators in public procurement is also considered relevant.

Finally, an investigation could be carried out comparing the procurement processes between entities with administrative autonomy and entities with administrative and financial autonomy, or the procurement processes between a public entity and a private entity.

References

- Abbott, J.; Karl B. M., & Vitasek K. (2006). **Understanding the lean supply chain: beginning the journey**". Report on Lean Practices in the supply chain.
- Agostinho, D. 2018. O Código dos Contratos Públicos. Jornal Expresso. Accessed on 07th May 2018
www.expresso.sapo.pt/blogues/bloguet_economia/blogue_econ_diogo_agostinho/2018-04-30-O-Codigo-dos-Contratos-Publicos#gs.jMnKKaM .
- Allway, M., & Corbett, S. 2002. **Shifting to lean service: Stealing a page from manufacturers' playbooks**. Journal of Organizational Excellence, 21(2), 45–54.
- Ansari, A. & Modarress, B. (1988). **JIT purchasing as a quality & productivity centre**. Journal of Production Research, 26(1), 19-26.
- Benson (1998). **Benchmarking lessons in the process industries**. Management Today: Manufacturing Excellence. May (Haymarket Business Publications, UK).
- Association of Business Process Management Professionals (2013). **Guide to the Business Process Management Common Body of Knowledge**, BPM CBOK Version 3.0. Retrieved from www.abpmp.org.
- Ramos, T., et al., (2017). **Gestão de Armazenagem e dos Stocks na Gestão da Cadeira de Abastecimento** (Capítulo 6). Logística e Gestão da Cadeira de Abastecimento. (2a ed.) 229-319. Lisboa: Edições Sílabo.
- Ferreira, L., et al., (2017). **Compras na Gestão da Cadeira de Abastecimento** (Capítulo 4). Logística e Gestão da Cadeira de Abastecimento. (2a ed.)163-189. Lisboa: Edições Sílabo.
- Chwif, L. & Medina, A. C. (2007). **Modelagem e Simulação de Eventos Discretos: Teoria e Aplicações** (2a ed.). São Paulo: Ed. dos Autores.
- Finance Ministry (2012). Decreto-Lei nº 149/12. Diário da República nº 134/2012– 1ª Série de 12 de julho.
- Finance Ministry (2013). Decreto-Lei nº 133/13. Diário da República nº 191/2013– 1ª Série de 03 de outubro.

Franco, A., 1999. **Finanças Públicas e Direito Financeiro**, 4^a ed., Vol. 2, Coimbra, Livraria Almedina.

Gomes, R., Silva, F. R. 2017. **Economia – Módulo 5,6,7 e 8 – Ensino Profissional**, 5:14-15. Lisboa. Porto Editora

Gonçalves, J., 2002. **Gestão de aprovisionamentos. Accounting, purchasing and supply chain management**. International Journal, 11: 202-207.

Hines, P. A. 2016. **Staying Lean: Thriving, Not Just Surviving**. Cardiff University Innovative Manufacturing Research Centre, UK

Hines, P., Holweg, M., & Rich, N. 2004. **Learning to evolve. International Journal of Operations & Production Management** (Vol. 24).

Hines, P., Found, P., Griffiths, G., & Harrison, R. 2008. **Staying Lean: thriving, not just surviving**. Cardiff: Lean enterprise Research Centre, Cardiff Business School

Hines, P., & Rich, N. 1997. **The seven value stream mapping tools. International Journal of Operations & Production Management**, 17(1), 46–64.

Hines, P. and Lethbridge, S. 2008. **New development: Creating a lean university**. Public Money & Management, 28(1): 53-56.

Hines, P., Silvi, R., & Bartolini, M. 2002. **Lean Profit Potential**, 64.

LeanProcurement.Com. (2016). **Supply Chain Optimization for procuring industrial supplies**. 15, 18-19. Retrieved from www.leanprocurement.com/wp-content/uploads/2017/01/Lean-Procurement-Quick-Guide.pdf

Maleyeff, J. 2006. **Exploration of internal service systems using lean principles. Management Decision**, 44 (5): 674-689.

Ministry of Public Works, Transport and Communications (2008). Decreto-Lei n° 18/08. Diário da República n.º 20/08 – 1ª Série de 29 de janeiro.

Ministry of Economy and Employment (1992). Decreto-Lei n° 152/92. Diário da República n° 172/1992– 1ª Série de 28 de julho.

Ministry of Planning and Infrastructure (2017). Decreto-Lei n° 111-B/2017. Diário da República n° 168/2017– 1ª Série de 31 de agosto.

Ministry of Science, Technology and Higher Education (2009). Decreto-Lei nº 95/2009. Diário da República nº 81/2009– 1ª Série de 27 de Abril.

Kraljic, P. (1983). **Purchasing must become supply management**. Harvard Business Review, 61(5), 109-117.

Lawrence S. Pryor, (1989). **Benchmarking: A Self-Improvement Strategy**. Journal of Business Strategy, 10(6), 28-32.

Ohno, T. 1988. **Toyota production system: Beyond large-scale production**. Portland, OR: Productivity Press

Pal, O., Gupta, A.K. e Garg, R.K. (2013). **Supplier selection criteria and methods in supply chains: A review**. International Journal of Social, Management, Economics and Business Engineering 7(10): 1403-1409

Poksinska, B. 2010. **The current state of Lean implementation in health care: literature review**. Quality Management in Health Care, 19(4), 319–329.

Porter, M. 1992. **Vantagem competitiva: criando e sustentando um desempenho superior** (4.ª Edição). Rio de Janeiro: Editora Campus.

Proudlove, N., Moxhad, C. and Boaden R. 2008. **Lessons for Lean in Healthcare from Using Six Sigma in the NHS**. Public Money and Management, 28 (1): 27-34.

Radnor, Z., Holweg, M., Waring, J. 2012. **Lean in healthcare: The unfilled promise?** Social Science and Medicine, 74(3): 364-371.

Radnor, Z. and Osborne, S. P. 2013. **Lean: A failed theory for public services?** Public Management Review, 15(2): 265-287.

Radnor, Z. and Johnston, R. 2013. **Lean in UK Government: internal efficiency or customer service?** Production Planning & Control: The Management of Operations, 24(10/11): 903-915.

Radnor, Z. & Walley, P. 2008. **Learning to Walk Before We Try to Run: Adapting Lean for the Public Sector**. Public Money and Management, 28 (1): 13-20.

Rendon, R.G. (2008). **Procurement process maturity: key to performance measurement**. Journal of Public Procurement, 8(2): 200-214.

Schiele, J. and McCue, C.P. 2011. **Lean thinking and its implications for public procurement: moving forward with assessment and implementation.** Journal of Public Procurement, 11 (2): 206-239.

Scorsone, E. 2008. **New development: what are the challenges in transferring lean thinking to government?** Public Money & Management, 28 (1): 61-64

TOYOTA Production System Basic Handbook. Art of Lean. 1-33. Retrieved from www.artoflean.com

Van Weele, A. 2002. **Purchasing Management: Analysis, Planning and Practice** (3^a ed). London: Chapman & Hall.

Waterman, J.J. and McCue, C.P. 2012. **Lean thinking within public sector purchasing department: The case of the U.K public service,** Journal of Public Procurement, 12 (4): 505-527.

Waters, D. 2003. **Logistics: an introduction to a Supply Chain Management.** New York: Palgrave Macmillan.

Wilson, M. M. J., & Roy, R. N. (2009). **Enabling lean procurement: A consolidation model for small and medium-sized enterprises.** Journal of Manufacturing Technology Management, 20(6), 817-833.

Womack, J. P., Jones, D. T., & Roos, D. 2003. . **Lean Thinking.**3, 50–66.

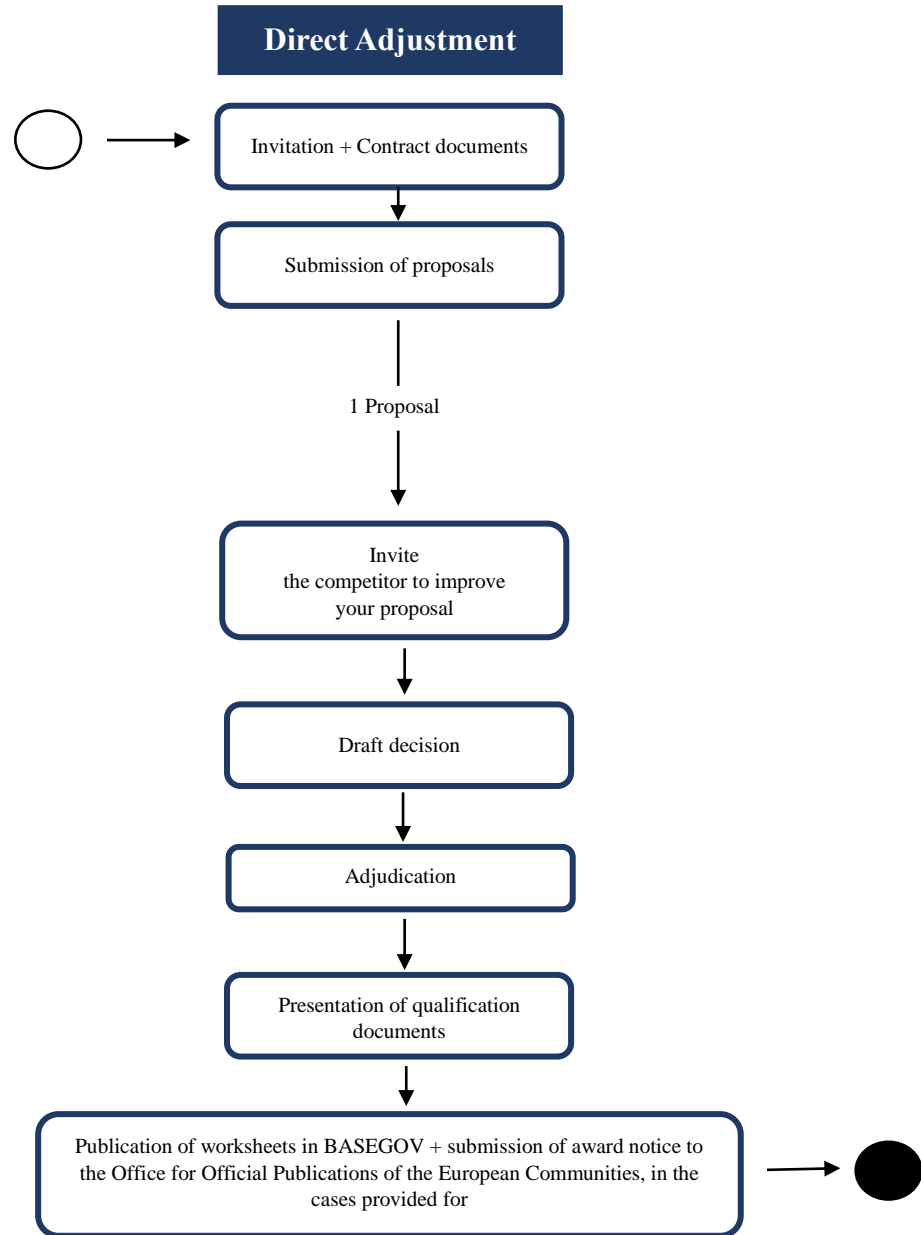
Womack, J. P., Jones, D. T., & Roos, D. 1990. **The Machine that Changed the World: The Story of Lean Production.** World, 1–11.

World Health Association. 1994. **Division of Mental Health. Qualitative Research for Health Programmes.** Geneva: WHA

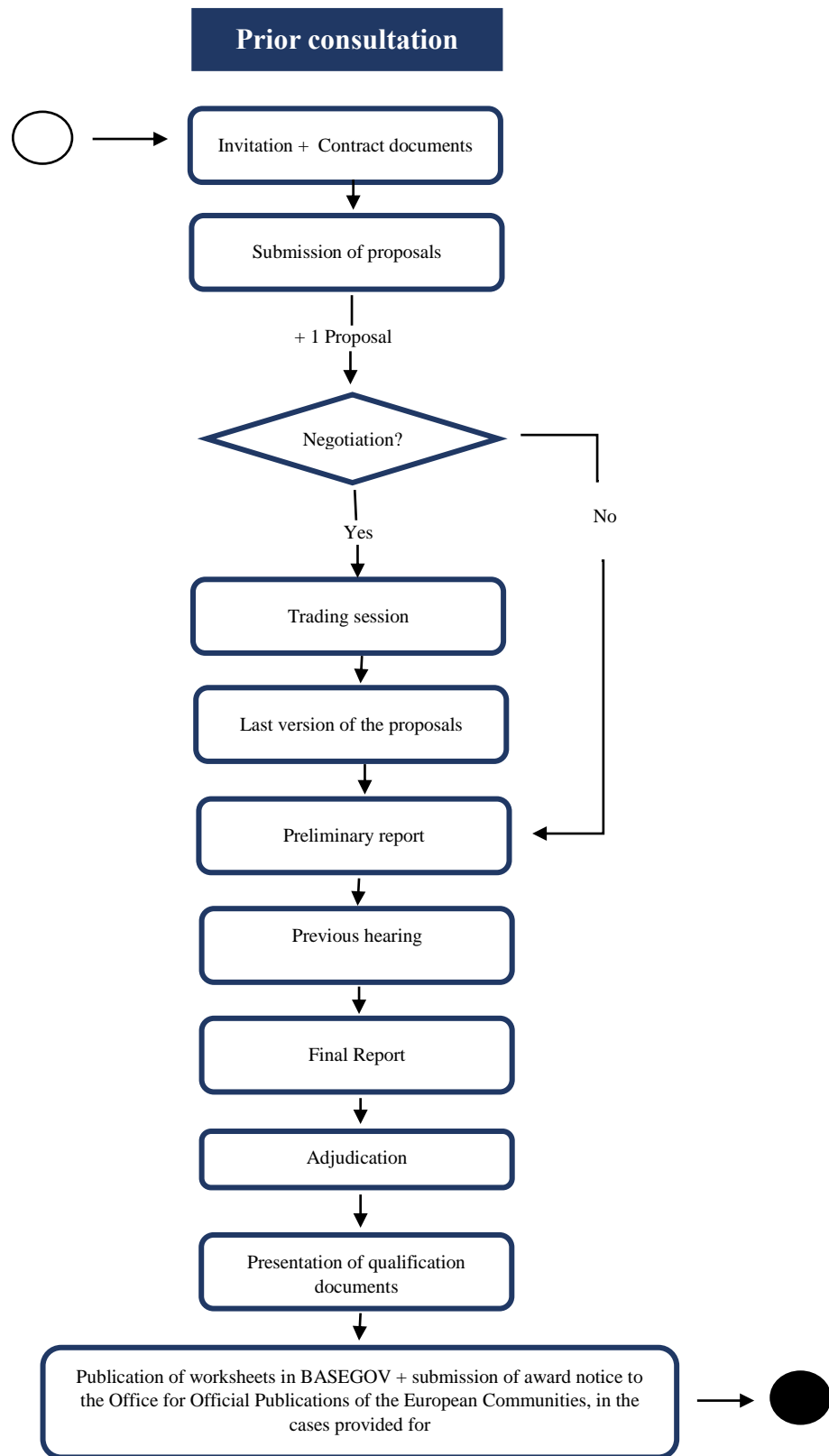
Yin, R. K. 2009. **Case study research design and methods.** Thousand Oaks: Sage

Appendix

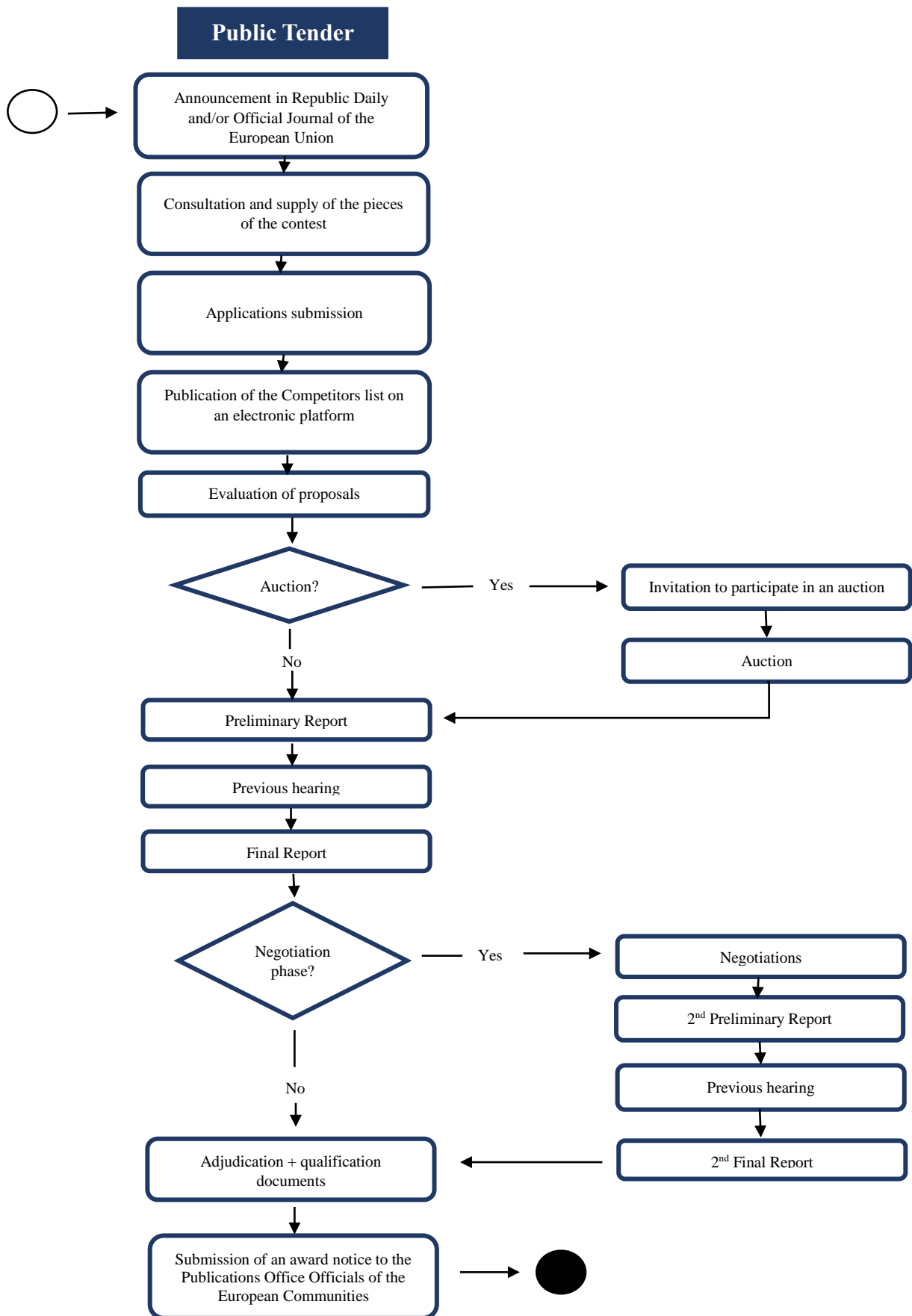
Appendix 1 – Legal mapping of direct adjustment



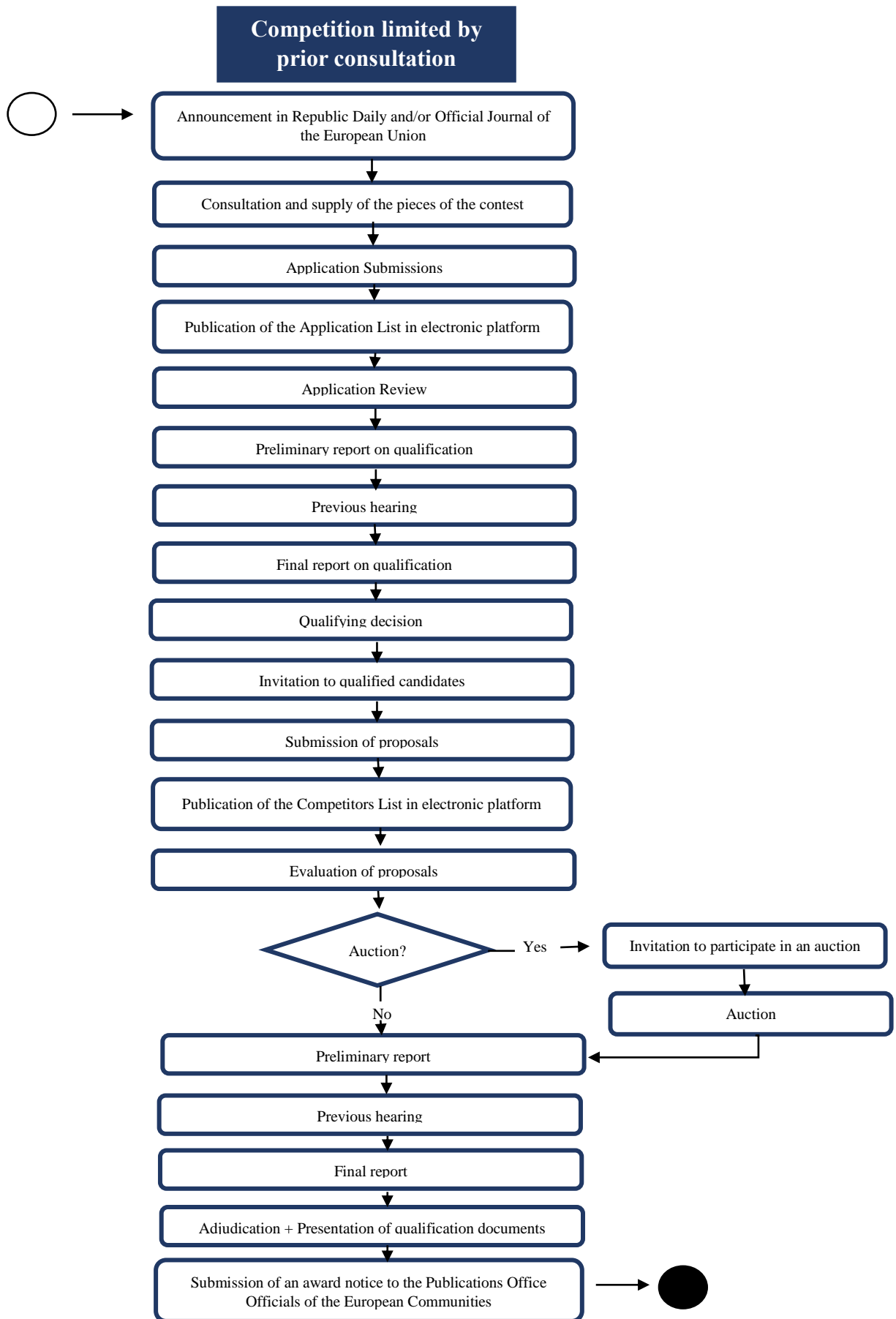
Appendix 2 – Legal mapping of prior consultation



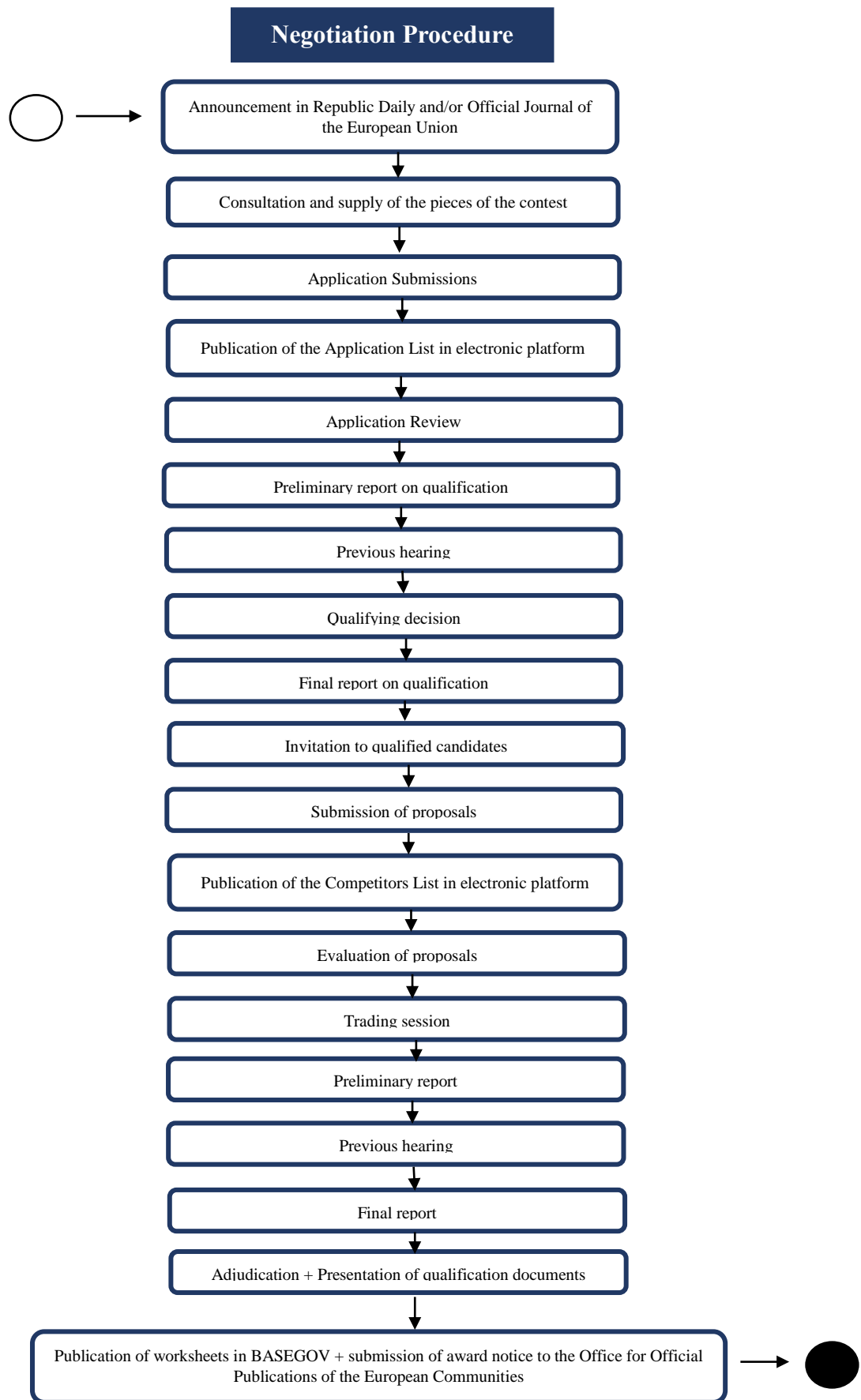
Appendix 3 – Legal mapping of public tender



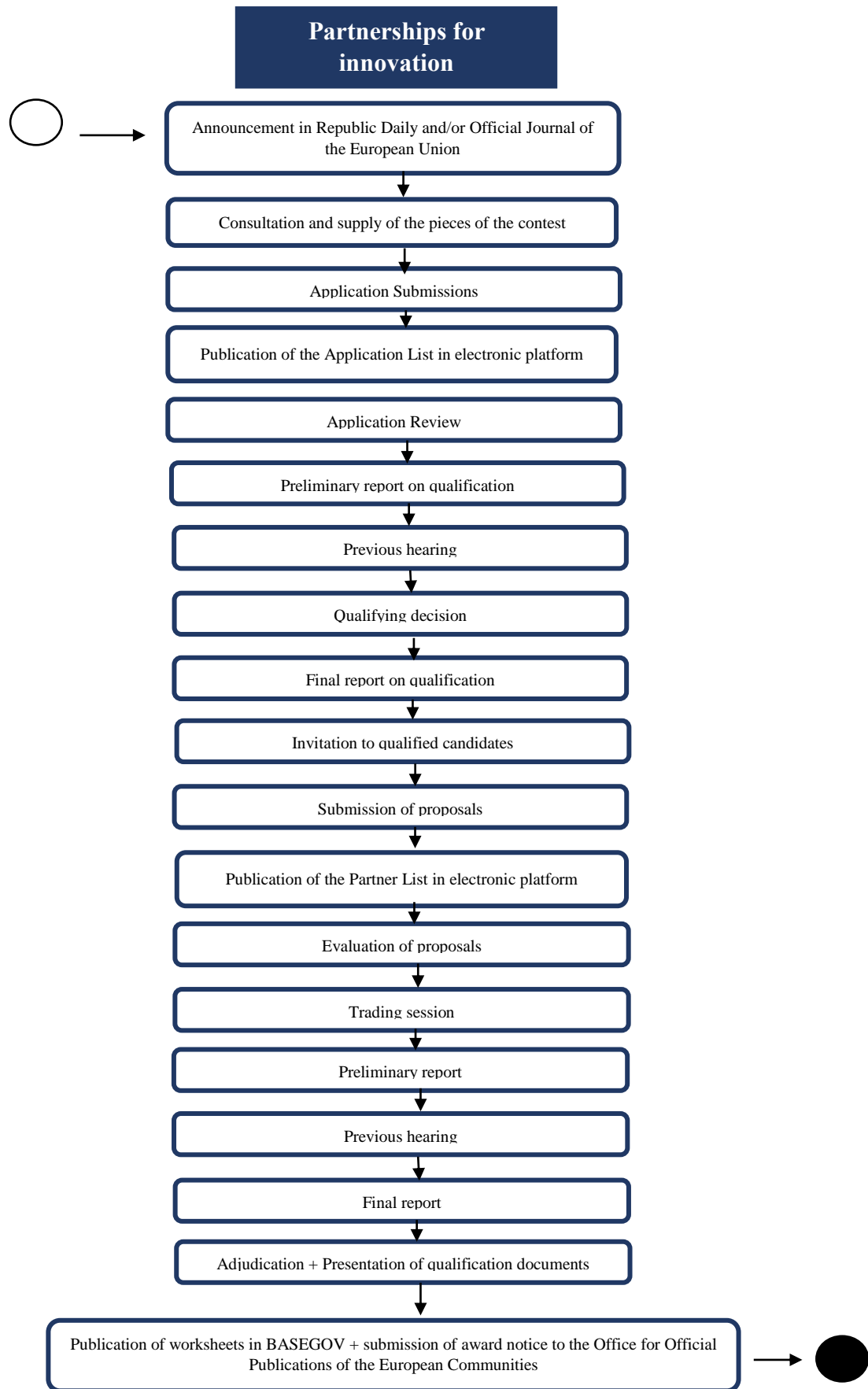
Appendix 4 – Legal mapping of competition limited by prior consultation



Appendix 5 – Legal mapping of negotiation procedure



Appendix 6 – Legal mapping of partnerships for innovation



Appendix 7 – Semi-structured interview 1 (step 1 of methodology)

1. Importance of purchases in the entity
2. Need for purchases in the entity
3. How do you evaluate the ISCTE-IUL procurement process in terms of complexity?
4. Form of interaction of departments with purchases
5. Frequency of purchases by department
6. Is the ISCTE-IUL procedure manual followed?

Appendix 8 – Semi-structured interview 2 (step 2 of methodology)

1. Do you think the legislation affects the performance of ISCTE-IUL purchases?
2. Performance of the procurement team
3. Loss of autonomy due to restrictions and rules of public procurement
4. What are the difficulties you feel in your day-to-day life with the procurement process?