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EU PUBLIC PROCUREMENT: CONTRACTUAL IMPLEMENTATION AND VIABILITY OF EPC CONTRACTS FOR PROVISIONS ON MARINE AND OFFSHORE INFRASTRUCTURES FOR THE PUBLIC SECTOR

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MASTER'S THESIS | ABSTRACT

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This thesis was a structured analysis of the phases of the public procurement process, which included the planning and implementation of the contract structure. Systematically investigated methods were included, among others, the critical planning phase, contracts financed by the EU as stipulated in the Directives 2014/23/EU, 2014/24/EC, and 2014/25/EU, applicable thresholds and contracting below limits. The interpretative communications issued by the Directives on specific topics, including improvement, not only under its legal control but its implementation under the application of management. Alternatives for the viability of EPC contracts were expressed within the regulation of public procurement in the EU. Although the argument presented in this thesis has nothing legally binding, even so, an attempt has been made to provide general knowledge, concepts, ideas, and solutions proposed by the research questions when interpreting it within the legal framework. Likewise, it did not prejudge the interpretation of the provisions of the applicable legislation that the Commission has prepared. This research identified some difficulties involved in the public contracting process and expressed some among them analyzed by judgments issued by disputes in contract resolution. These conditions were described to increase shared understanding. It was found that the contracting framework could work thoroughly on marine and other technology projects when the contractor understands all contractual aspects, including risk allocation.

KEYWORDS:

Contracts, decision support system, design-bid-build, project delivery methods, public administration

OPINNÄYTETYÖ (YAMK) | TIIVISTELMÄ

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EU: N JULKINEN HANKINTA: JULKISEN SEKTORIN MERI- JA ULKOMAIDEN INFRASTRUKTUURIA KOSKEVIEN EPC-SOPIMUSTEN SOPIMUSTEN TÄYTÄNTÖÖNPANO JA VASTAVUUS

Tämä opinnäytetyö käsitteli strukturoitua analyysia julkisten hankintojen vaiheista, joka sisälsi sopimusrakenteen suunnittelun ja toteuttamisen. Järjestelmällisesti tutkitut prosessit sisällytettiin muun muassa kriittiseen suunnitteluvaiheeseen, EU: n rahoittamiin sopimuksiin kuten direktiiveissä 2014/23/EU, 2014/24/EY ja 2014/25/EU määrätään, sovellettavista kynnysarvoista ja sopimuksista alle rajojen. Direktiiveissä annetut tulkitsevat tiedonannot tietyistä aiheista, mukaan lukien parantaminen, paitsi sen laillisen valvonnan alaisena, myös täytäntöönpanon johdon soveltamisen alaisena.

Vaihtoehtoja EPC-sopimusten elinkelpoisuudelle ilmaistiin EU: n julkisia hankintoja koskevassa sääntelyssä. Vaikka tässä opinnäytetyön väitteessä ei ole mitään oikeudellisesti sitovaa, silti on yritetty antaa tutkimuskysymysten ehdottamaa yleistä tietoa, käsitteitä, ideoita ja ratkaisuja tulkittaessa sitä oikeudellisessa kehyksessä. Samoin se ei vaikuttanut komission laatiman sovellettavan lainsäädännön säännösten tulkintaan. Tutkimuksessa yksilöitiin joitain hankintaprosesseihin liittyviä vaikeuksia ja ilmaistiin joitain niistä analysoitaessa riitojen ratkaisemisessa annettuja tuomioita. Nämä olosuhteet kuvailtiin lisäämään yhteisymmärrystä. Todettiin, että urakointisopimusten oikeudellinen kehys voisi toimia perusteellisesti meri- ja muissa teknologiahankkeissa, kun urakoitsija ymmärtää kaikki sopimukseen liittyvät näkökohdat, mukaan lukien riskien jakaminen.

ASIASANAT:

Julkinen hallinto, päätöksenteon tukijärjestelmä, projektin toimitusmenetelmät, sopimukset, suunnittelu-tarjous-rakennus

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LIST OF ABBREVIATIONS

CA: Contracting Authority

CN: Contract Notice

CJEU: Court justice of the European Union

EC: European Commission

EEA: European Economic Area

EMAS: Eco-Management and Audit Scheme

EPCC: Engineering, Procurement, Construction, Commissioning contracts

ESI Funds: European Structural and Investment Funds

EU: European Union

FTA: Free Trade Agreement

ICT: Information and Communication Technologies

ILO: International Labor Organization

IPI: International Procurement Instrument

MEAT: Most economically advantageous tender

NATO: North Atlantic Treaty Organization

OECD: The organization for economic cooperation and development

OJEU: Official Journal of the European Union

RIGG: Inter-American Government Procurement Network

R&D: Research and Development

SIMAP: Information-system for public procurement

SMEs: Small and medium-sized enterprises

TCE: European Court of Auditors

TED: Tenders Electronic Daily

TFEU: Treaty Functioning of the European Union

TRLCSP: Consolidated Text of the Public Sector in Contracts Law

VFM: Value-for-money

WTO: World Trade Organization

1 INTRODUCTION

Research focus in the field of European public procurement, signaling the strategy towards efficient performance results. Full transparency and being a source of value for money is essential for public procurement, and due to the nature of complex contracts, especially in the marine technology industry. Contracting authorities find it harder to measure liability and demonstrate the value of money within those contracts.

Many of these complex public procurement projects bring with them several considerations and challenges. This type of procurement requires a different approach to day-to-day purchasing. Still, with proper planning, resources, methodology, and the use of increasingly appropriate technology, public procurement risk can be addressed from all angles and managed. Essential is to denote in EPC (Engineering, Procurement, Construction contracts); that when it is more complicated the acquisition, the higher the risk to all parties involved. Difficulties include the administration of complex contracts also increases the level of the project risk.

Complex acquisitions tend to have a higher profile for public sector organizations, attracting a higher level of scrutiny, both formal and informal. Admittedly, ensuring access to auditable and secure information about suppliers and their offers is a crucial way to protect the organization. It is essential to design and illustrate together with promoting new acceptable practices in contract management. Demonstrating how these affect project success helps to minimize project risk, considering its importance since 65% of the project risk falls on the contractual closure.

1.1 Background and goal of the research plan

Public procurement is one of the facets of the organizational activity that most influences the economic development not only of the member states of the Union in Europe but to all the globe. It has subjected to the imperative of each democratic Constitution that seeks general interests.

Public procurement represents a significant proportion of the spending of the European Union (EU) and its Member States. According to the European Commission's estimate (Auditors, 2018, s. 7), each year, more than 250,000 EU public authorities spend around € 2 billion, or 14% of GDP, on the purchase of services, works, and supplies.

There is consumption in it that increases year after year (Commission, 2018, ss. 4-15), thus becoming a function with potential energizer for economies, especially for the participation of Small and Medium Enterprises (SMEs). This provisioning function has not only become relevant due to its high sums of resources but also because it has been transformed into a strategic and fundamental activity to support and develop various social and economic policies in different countries.

It turns out that resources involved, financial interests at stake, and close interaction between the public-private sectors, as well as all the aspects of growth engaged in the operation. It makes this subject an area exposed to dishonest commercial practices such as the conflict of interests, favoritism, and corruption (Commission, 2012, s. 6). It is a warning to the Organization for Economic Cooperation and Development (OECD) that this government activity remains the most vulnerable in spending, fraud, and corruption due to the size of the financial flows involved (OECD, 2020).

Corruption, in general, generates public losses. Focusing only on the direct material costs of corruption has immediate monetary consequences for national budgets (including regional and local), and when it comes to EU funds, the EU budget. It also involves the estimated monetary amount lost due to corruption due to ineffectiveness, which means that a project does not fully achieve its objectives—alternatively, inefficiency, which means that the results of a project are inconsistent with the inputs. For example, the costs of the project are higher than market prices, or project results are of inferior quality (Commission, 2012, s. 4).

Provision to play a strategic, competent role, efficient, and transparent service as required today (WBG, 2020), it must be legally articulated, listen to all its parts and actors, in addition to being administered and controlled in a manner adequate. It must seek to satisfy one of its principles, the public interest over another of any kind, and at the same time, execute the work at the best price and with the best possible quality.

All these requirements require, in short, the duty to exercise a public procurement that is measurable and controlled, using the information from its control to improve and advance it. The need to control this matter, therefore, comes because of the obligation that society imposes on the State to be more efficient and effective with its public resources. How the OECD has maintained in this regard, the recent economic crisis has increased pressure on governments to achieve efficiency gains in available service delivery (OECD P., 2019, s. 72). Also, mentioning that the main objective of the European Community legislation in question is to guarantee the efficiency of Public funds. The same agency

for 2016 pointed out among the priorities of the reforms in the effectiveness of public sector contracts; there is the "improvement of monitoring mechanisms" of the system (OECD P., 2019, s. 82).

1.2 Problem formulation

The traditional approach to evaluation has been focused on projects and in the decision phase related to approval, that is, for the ex-ante assessment of projects. This approach has been generalized and adapted to apply it to programs and public policies that have gone through the implementation phase. The emphasis must be on results-oriented management. Emphasis should be placed on results-oriented management. Furthermore, it is necessary to be responsible when using public resources. Learning through experience has generated a growing interest in the evaluation as a discipline that contributes to satisfying these demands (OECD S.-G. o., 2017). The above can raise the following question: Is current public procurement not an appropriate situation that needs to be measured and improved? World reality manifests this demand and places it as a priority for municipal development. Knowing what to buy, who or who, and how can take advantage of the scarce state resources to the fullest, is vitally important, and is the basis of a contract that want to be strategic and thrive on innovation.

Controlling allows, among other things, to bring public contracts closer to effective project management. It must listen to its surroundings, useful and timely procurement information, specific and standardized procedures, inter and extra-institutional cooperation, the requirement of effective leadership of the authorities, and use of practical tools that measure how to act. For public procurement to move away from political and clientelist practices, irregularities, inefficiencies, and duplicities, and above all, to avoid the wrong way of thinking and to execute, control must be exercised to facilitate it. The current control systems in this area kept up the traditional inertia of public administrations, finding it in practice with a measure of legality of administrative actions, as well as budgetary and financial control of the resources. Said insufficient restrictions are insufficient to deal with all dysfunctions emanate from the system as well as vices related to its corruption.

This situation described above, where it has indicated that in the management of contracting, it is not enough that the principle of legality is respected, but it is also necessary to achieve efficiency. The argument from the Organization for Economic

Cooperation and Development (OECD) is that governments should move away from an approach based strictly on compliance with standards to approach a managerial and management vision. The control of public spending includes two modalities, such as legality, where the legal nuance prevails and management, where economic matters are covered.

The National Constitutions of the members of the EU, the General Budget Law; the Common Administrative Procedure of Public Administrations; as well as the laws emitted on Contracts of the Public Sector, by which the European Directives of the Parliament and Council 2014/23/EU and 2014/24/EU, of 26 February 2014, among other regulations, have legal, budgetary-financial controls, and measures of efficiency and effectiveness on their public resources. However, despite this guarantor control environment, only a measurement of legality and budget is perceived in the praxis over all other controls, highlighting that the first test referred to is not very useful in some of the governments of the European community.

Although these last two mentioned controls are essential, as it said, these are insufficient to answer all the questions that the public apparatus must guarantee in the matter, needing to answer questions such as: What impact is the application of National regulations in public procurement? Are the Public resources provided being used efficiently and effectively? What risks of regulatory and management breaches can be anticipated? How to optimize the hiring system and reduce acts of corruption? These questions are not born only from the common sense of this thesis. There are also coming from international organizations that have diagnosed with Public Procurement. Such organizations are the World Bank, the Organization for Economic Cooperation and Development (OECD), the European Commission, the Court of Auditors of the European Commission, among others, as well as from national organizations in Finland and other state's members of the union.

Such an insufficient control management environment based on legality and measurement of budget execution framework is somehow to explained that the economic boom and the incrementalism character of the budget policy paid the ground for uncritical control. In other words, when nobody in the country discusses the need to use public money in a better way because there are enough resources for everyone, the essential analyses of efficacy and efficiency were leftover obsolete.

The Finnish Republic as well as states, therefore, must give an effective and permanent answer to these questions, in order not to fall within the group of European Union (EU) countries that have contracting systems with more significant dysfunctions (Commission, Index of Economic Forecasts, 2017). It must remain in collaboration with other professional disciplines as having been done by nations such as in America, the United States, and Canada, United Kingdom, South Korea, Australia, among others, and in the end, responding to citizen demands for better administration, transparency, and accountability. Thus, in this sense, M. Cozzio expresses that the field of public procurement is still an unexplored area. These are Indicating that only some contributions from jurists, economists, and statistical experts are available. In contrast, almost no inputs from project management engineering experts found, among others (Cozzio, 2013, s. 578).

Current legislation is an integral part of the political and social reality of Europe. After the Union Treaties, thousands of decisions made each year have a decisive influence on the fact of the EU Member States and their citizens. The individual is not only part of their locality, city, or country, but is also a citizen of the union. EU citizens must be and remain informed about the legal system that influences everyday life. However, the structure of the EU and its legal system is complicated for European citizens to understand.

The same is valid within the scope of engineering projects and with engineers. Legal engineering concepts move through the fields of engineering and law. The activity of marine engineering is related to the design, planning, and construction of ships, vessels, and floating devices such as oil platforms and even wind farms and fish farms. Naval engineering encompasses engineering functions, including the creative project of the ship and floating artifacts, applied research, the technical development in the fields of design and construction, and the management of floating material production centers (shipyards).

In contrast to other professions, as Paul H. Wright (2002) notes, "engineers tend to create machines, structures, and processes to be used by groups of people rather than by a single individual." Engineers rarely deal directly with the consumers, while in the case of other professionals, this is common (Wright, 2002, ss. 21-23).

Although some forms of engineering practiced since ancient times, engineering is a relatively young profession, not yet mature. It has developed more slowly than other occupations. Unlike some of them, it is subject to less strict laws regarding its admission

and practice. On the other hand, the legislation (or "statutory law") is a science that deals with the set of obligatory norms that regulate relations between people to equitably supply the needs of individuals and ensure social justice and harmony. Unlike moral, religious, or etiquette standards, which also restrict interests, legal rules characterized by being general and coercive, of obligatory compliance.

In carrying out professional activities, the engineer is subject to legal regulations, and conflict situations transfer the engineer to the field of law. The analysis of the legal framework within engineering facilitates the resolution of conflict situations within the project, by dividing these into areas around which the knowledge on which it based can organize. Concepts related to engineering contracting, classification of contracts, contracting modalities, tenders, environmental legislation, and the regulation of the engineering profession, among others, foresee a high risk from the first moment of starting projects.

The problem has a double aspect. On the one hand, the texts of the Treaties are often unclear, or their scope is difficult to understand. On the other hand, numerous concepts used to regulate new situations are not entirely familiar to engineers. Therefore, a construction approach and the pillars on which based on the European system of legal acquisitions should be within the experience of the project managing engineer and manage it efficiently and then pass it on to interested parties.

Regarding the Public procurement legal framework into the marine technology industry, the Public Sector Contract Law in Finland and the other states members incorporated into national legislation, Directive 2014/23/EU emitted by the European Parliament (EP) and of the Council of 26 February 2014 on the award of concession contracts with text relevance within EEA states members. Directive 2014/24/EU of the EP and of the Council on the 26 February 2014 on public procurement and repealing Directive 2004/18/EC. The text has relevance with the EEA member states. Directive 2014/25/EU of the EP and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport, and postal services sectors and repealing Directive 2004/17/EC with the text relevance within EEA states members. This contractual regulation emphasizes the importance of the execution or management phase in front of the awarding stage and the need to consider aspects of quality in the provision of the service, incorporating social and environmental criteria, and aspects favorable to the small and medium business and innovation.

The European Union concluded a process of revision and modernization of the current rules on public procurement with this new regulation, allowing to increase the efficiency of government spending. Facilitate the small and medium enterprises (SMEs) participation in general contracting, as well as to enable the authorities to employ contracting in support of common social objectives. It was also necessary to clarify certain notions and basic concepts to ensure legal certainty and incorporate various aspects highlighted by the Court of Justice of the European Union (EU) regarding public procurement, which has also been an achievement of these Directives.

When exploring the foundations of promoting community institutions in favor of public-private collaboration, to be summarized as greater social efficiency and achieving more direct participation of the private sector in solving collective needs, it is a priority for the European Commission (EC). These will provide the best quality of public services and will seek the possibility of avoiding budgetary restrictions that may result in a stability model designed right here in Europe.

From this context, it will be an excellent practice to make a research plan that analyses the directives in-depth, to guarantee the superb governance of public-private collaboration in the coming years. New demands for quality and equity in public procurement management, advise a new strategy based on the complementarity between public and private efforts, from the perspective of the win-win principle for project procurement and contract management for the engineering design and construction industry.

The different activities involved in the management processes of the Project Acquisitions form the life cycle of a contract. By carefully drafting the terms and conditions of each agreement, and actively managing their life cycle, many of the risks of the project can be avoided or mitigated. Establishing a deal is a means to transfer the responsibility to maintain or assume a possible threat of loss. A contract is also a legal bond subject to resolution in court. It includes terms and conditions to establish what the interested party must do or provide. It is the responsibility of the project management team to help adapt all procurement contracts to the specific needs of the project, being necessary, in most cases, the support of the organization's legal, purchasing, and contracting areas under its procurement policies. For perplexing offshore and onshore projects, the preferred contract module used is the EPC. To understand the risk allocation and mastering the mesentery of EPC contracts will be a valuable tool for promoting effective contracting strategies to minimize liabilities. This section in the research thesis based in Contract

Management in engineering projects, EPC contracts, will be specifically designed to provide a practical guideline for the project management team.

Public contracts at the EU level that exceed the minimums set by the harmonized rules should be published throughout the union to integrate the public procurement markets, improve competition, and increase the quality-price ratio of government spending. Still, not all of those are openly posting. The strengthening of public procurement should be an essential part of the actions of public authorities aimed at creating a more equitable society based on equal opportunities and broad market participation while including sustainable economic growth. In addition to the above, the efficient system of public procurement contributes significantly to the sustainability of open accounts. At the time of designing Union regulations on Public Procurement, the hope was that the conditions for an increase in cross-border offers would create. Still, it seems that this was not the case.

This thesis aimed to increase the point of view that focuses the research questions formulated here on the performance of the organization, improving the effectiveness influenced by the public sector by focusing on the advantages of project management theory within a broad knowledge of the legal framework.

1.3 Objectives and expected results

According to the previous justification, the purpose of this study is aimed at establishing the peremptory need to complement the current system of legal and budgetary-financial control of the EU that carries out this activity, with inspections of other types and internal management tools. Mechanisms that, in addition to controlling and improving the result of public funds, will guarantee limits to irregularities and conduct related to corruption. Therefore thus investigating the above, the object also wanted to corroborate the need to re-analyze and implement in public procurement in the EU, the current public contractual system, and its contractual management plan and process by using other types of internal management tools. Described the method in which a specific contract for infrastructures with state-of-the-art marine technology is administered and executed, such as the Engineering, Procurement, and Construction contract.

To be achieved above, it was necessary for five specific goals, which were:

1. Investigate in a global panorama the relevant regulations, the situation, and the trend of public procurement and its related aspects.

2. Investigate the control and internal control mechanisms on this matter in EU countries, countries of the Americas, and other prominent territories, including a study from Finland.

3. Propose, considering the research, different types of controls complementary to the traditional ones in this area, adding specific tools to measure and improve internal management applied as practical instruments in EPC contractual management.

4. Interact in the contract management process to investigate how the parties involved can meet the operational, functional, and business objectives required by the contract and provide a profitable interaction with their respective obligations in any acquisition relationship.

5. Propose in light of the research, the essential tools and skills of project management with EPC contracts and viability within the European Community legal framework.

1.4 Research questions

Taking as a reference to the European Directives and the principles that have guided the elaboration of the National Law and its application within a very competitive market such as marine technology is, the main research question raised:

How does EU public procurement implement contract management to make EPC contracts viable for infrastructure projects within marine technology?

Finally, it should be noted that this research has been based on five questions on substantive aspects of the subject, which have sought to guide this study, favoring achieving the expected result and the proposed goals. The questions mentioned and answered in the course of this document have been the following:

1. How does is public procurement in the EU being monitored, and what measurement and control instruments are being applied?

2. What proposals in legal and management control can optimize the acquisition process?

3. How do feasible are EPC contracts in European public procurement when speaking of provisioning of marine technology projects within the single market?

Figure 1. Research questions.

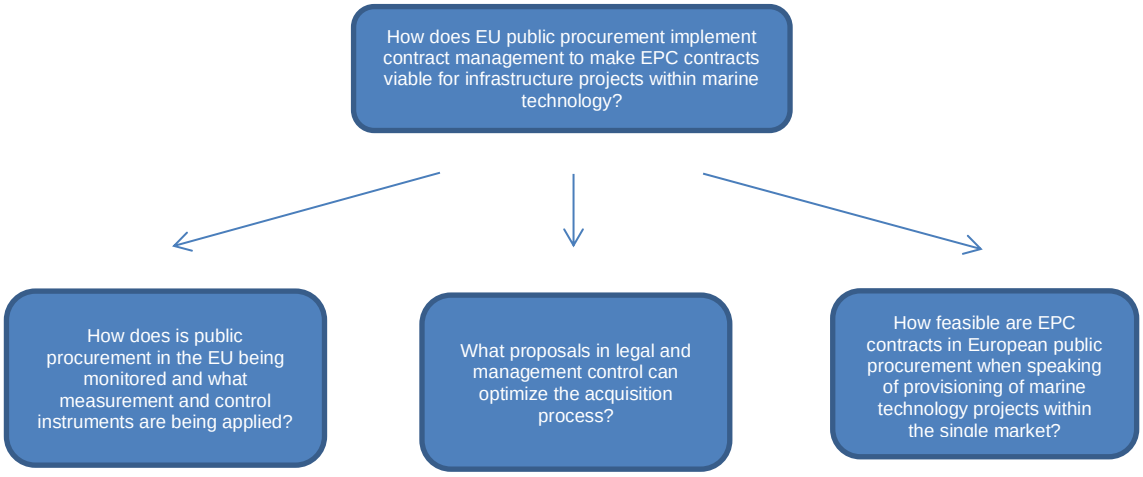


Figure 2. Structure of the thesis.

Introduction (Chapter 1)	
EU Public Procurement and its Contractual Implementation Literature Review (Chapter 2)	
Contractual Implementation Management	**Public Procurement legal framework in the EU**
EPC contracting - Contracting services- Type of contracts - Contracts management - Amendments to the contracts law in the public sector - Contractual management tasks - Contractual Risk management - Contract knowledge management	Public procurement directives - Public contracts negotiation - Public procurement contracts - Public procurement procedure - Criteria for awarding contracts - Advertising and transparency standards - Contract management – Risk management - Contract modifications - Claims and appeals - Contract closure
The viability of EPC Contracts for provisions in Marine Technology Infrastructures (Chapter 3)	
Discussion and Conclusions (Chapter 4)	

The framework of the thesis can find in figure 2 above, where the main themes represented with the research questions into which these are related to and supposed the answer. The structure of this thesis with a Detailed description can found in the Structure of the thesis.

1.1 Delimitations

Referring to the delineation of this investigation was drawn up in three parts. First is related to the geographic boundary; that is, this exploration has carried out in EU-EEA countries. The second was linked to its chronological delimitation, encompassing studies, reports, and evaluations for approximately ten years, the date on which public procurement began to develop exponentially. Third, a depth delimitation was applied, primarily focusing on analyzing the effects and limitations that legal control has. The Project Procurement Management processes, the investigated the rules for the internal operation of public contracting or contracting life cycle was added. Including the management and control of the means necessary to develop and administer agreements such as contracts, purchase orders, memoranda of agreements (MOA), or internal service level agreements (SLAs).

1.5 Theoretical framework

This research has two main themes that must cover through the conceptual framework: public procurement and contractual implementation in the EU and its legal framework.

The first part of the theoretical study consisted of defining the legal environment for procurement management within the European Community, which is currently the legal jurisdiction. Initially, its legal basis is introduced, in general, and how the project's negotiations and public contracts handled it. The main areas to deal with in public procurement and its entire legal environment discussed with the references for the application of the principles of the internal market. The contracts allow the free provision of services and competition, guaranteeing better distribution resources and more rational use of public funds, thus setting the acquisition model. The same legal framework provided some tools and techniques to facilitate procurement management and overall

management, including project control and management, the power of documents, and the importance of problem or incident records.

The second part of the theory dealt with the negotiations of public contracts, public procurement contracts, public procurement procedures, and the criteria for awarding contracts. It goes further with the advertising and transparency standards into the EU, contract management, and risk management. Detailed with the contract modifications, claims, and appeals and closes with the contract closing theme. Within contractual management goes with EPC contracting, contracting services, and the types of contracts. Almost ending with the chapter, some modifications are proposed that should be made to the law of contracts in the community public sector and what are their respective systems to support making this decision, finished with the determinants of the viability of EPC contracts in Infrastructure of Marine Engineering.

1.6 Literature review

The management of acquisitions, negotiations, and Public Procurement in the EU-EEA are, in general, broad areas of research that deal with the subject of this research. Paying attention to the fact that there are several publications available on the procurement and negotiation management skills needed by the project manager in the Marine Technology Industry, the PMBok invoked as a reference bible on this subject, as well as other carefully selected references to implement the theme.

An immense contribution from the European Parliament and the Council of the European Union has the second part. It has come from the Treaty on the Functioning of the European Union § 53, paragraph 1, § 62, 114. Proposal of the European Commission considers the prior transmission of the Legislative project act to national parliaments. Significantly contributed from the European Commission with the Directive 2014/23/EU of the European Parliament (EP) and of the Council of 26 February 2014 on the award of concession contracts with text relevance within EEA states members. Directive 2014/24/EU of the EP and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC. The text has relevance with the EEA member states. Directive 2014/25/EU of the EP and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport, and postal services sectors and repealing Directive 2004/17/EC with the text relevance within EEA states

members. Other Directives issued by the European Commission will be invoked according to the subject to be complemented.

The above mentioned allowed an analysis of the current context of public contracting management in the EU. After the approval of the public procurement directives in 2014, the strategic vision of public procurement appears clearly to the legislator. Through public procurement, public authorities carried out a policy of intervention in the economic, social, and political life of Europe. It enters fully into the contract execution phase to ensure the control of quality and the true satisfaction of the public interest. Public governance in the design of public-private collaboration requires, in the first place, to correctly identify the needs and solutions that intended to be covered by the contract, risks, and proper distribution among the parties involved. It is necessary to overcome the formal inertias to pay attention to the drafting of a planned and strategic bidding document, which precisely regulates the possible incidents of its execution and, above all, encourages its compliance, preserving social rights.

The final part of the analysis focused on Engineering, Procurement, construction contracts (EPC). Contracts Management within Marine technology projects, using a variety of experimental research procedures to ensure the most considerable insight, understanding, and retention of the information presented. It includes an EPC summary, legal framework, and contract structure, and risk allocation. Bidding process leading to an EPC contract, the negotiation of the essential contractual terms of the EPC contracts, and the life cycle of the contract by aligning the contractual terms with the project management. Analyses critical aspects of risk management strategies and essential problems of contract termination designed to improve and sharpen the skills of project managers in planning, negotiating, and managing EPC contracts through case studies.

1.7 Research methods

About the applied method, it must say that it is based on carrying out a qualitative analysis, on the one hand, of the legal effects of the regulations coming from the EU, its general principles, and the legal framework of European public procurement. Furthermore, on the other, it investigated the status of EPC contracts, the types of internal controls present, and those who could support project managers to obtain a better result.

From this analysis, it sought to investigate how the rules presented to resolve current dysfunctions in the subject studied, and what control guidelines are used for it, as well as to find out why other types of controls are essential and what benefits those produce. Such methodology is operationally base on two parts. The first based on the collection of primary and secondary information, classifying and analyzing data from the leading national and international authors, in addition to the regulatory provisions in this regard, including articles, reports, research, evaluations, statistics, presentations, and symposia, among others.

In the second part, was all the information obtained, analyzed, and grouped, structuring it in the index of this thesis -according to the researcher's approach, using the following methods:

- Descriptive: bibliographic review and description of the legal and management framework on the control in public procurement
- Comparative: the contrast between the systems, tools, and elements of internal control found in the subject of study
- Explanatory: identification of the reasons that cause the legal, budgetary, and managerial oversight to be insufficient to measure government acquisitions, in addition to those that make it difficult to carry out internal control successfully.
- Inductive: drawing up conclusions that could apply to any other public procurement system in other territories.

1.7.1 Action research

Kurt Lewin developed the Action Research idea (Clem Adelman 1993, 7-24) in the immediate post-war period with a method of intervening in social problems. Lewin identified four phases in action research (planning, acting, observing, and reflecting) and imagined it based on principles that could lead "*gradually to independence, equality, and cooperation*," says Lewin (1946).

There is no unanimity on the concept of Action Research, and therefore on its research practices. So, there is an approach from which the accent placed on the political dimension. Research has a shock wave impact on education and social development; it becomes legitimate for practitioners and citizens and not just for one elitist class. Another

in the professional a process of accumulation of knowledge at the level of practical professional development and to these two approaches added a third approach that focuses on the personal dimension, enrichment, self-knowledge, and realization of each subject in a deep understanding of the practices themselves.

Some definitions given by the most relevant authors in Action Research were developed, as Hopkins (1989). He says that Action Research combines a principal act with an investigation procedure; it is a disciplined search action, a personal attempt to understand while being engaged in the process of improvement and reform (David Hopkins et al. 1989, 61-80).

Stephen Kemmis (1983) describes it as action research is a form of self-reflective search, carried out by participants in social situations, including educational ones. Perfection in logic and equity of their own social or educational practices. Understanding of these practices and the circumstances in which these practices carried out (Kemmis Stephen 2011).

It is much more logical when the participants collaborate, although it is often done individually and sometimes in collaboration with "external people." In education, action research has been used in the development of the school curriculum, in professional development, in school improvement programs, and in the planning of systems and regulations.

Said, in simpler words, "Action Research is putting into practice an idea, intending to improve or change something, trying to have a real effect on the situation" (Kemmis, 1983).

Kemmis and McTaggart (1988, 30) summarize them in the following way:

A. Action research aims to change and improve existing practices, be educational, social, and personal.

B. Action research carried out in a participatory way, that is, in groups that propose the improvement of their social or experiential practices.

C. Methodologically it is developed following a spiral process that includes four phases: Planning, Action, Observation, and Reflection.

D. Action research becomes a systematic learning process since it implies that people carry out critical analyses of the situations, classes, centers, or systems in which its immersed, induces people to theorize about their practices, and demands that actions and theories tested.

The thesis objective was to show how the opportunities provided by the Action Research models could solve problems related to the management of acquisitions in government authorities in the European Community and its EEA partners.

Three phases of Lewin's spiral framework action research were adapted. The purpose technique used to select members of Action Research groups for the authority, which is the European Commission (EC). It revealed that the problems were mainly due to planning, records management, evaluation of offers, knowledge of the legal framework, and administration of contracts for works.

Attitudes about transparency and accountability among stakeholders were also not in line with public procurement principles. The developed action plans were implemented and evaluated. Three components, i.e., research, actions, and training, were combined to improve procurement planning, registration, and contract management.

There were notable improvements in planning, record keeping, and contract management. Positive attitudes towards equality, transparency, and accountability reported in Action Research. The need to integrate Action Research with the procurement activities of government authorities at the national level recommended. However, there are challenges, such as building a culture of self-evaluation, transparency, and the temporary nature of project managers.

1.7.2 Benchmarking Public Procurement (BPP)

The benchmarking of public procurement focused on legal and regulatory environments that involve the capability of private-sector corporations to do business with governments. Its objective is to promote evidence-based decision-making by governments and to build evidence in areas where little empirical data has been presented so far.

The Benchmarking Public Procurement 2017 report presented comparable data on public procurement laws and regulations across 180 economies to meet the diverse

needs of different stakeholders for information, analysis, and policy action. It provided private sector companies with information on issues related to their participation in the public procurement market while providing policymakers with information on their country's public procurement regulatory system and related business practices. The data also benefited the academic and research community by offering better tools and data on procurement systems and facilitating cross-country analysis.

The benchmarking of public procurement is based on the World Bank Group economics and development methodology. The 2017 Benchmarking is centered on easily comparable data across two thematic pillars: the procurement process, from needs assessment to procurement contract implementation, and public procurement claims review mechanisms (WBG, 2020).

The Methodology for the Evaluation of Public Procurement Systems developed in this research was applied to evaluate and seek improvements in public procurement systems by making available tools to analyze information on critical aspects of the current system. Its methodology was launched on the initiative of the World Bank and the Development Assistance Committee (DAC) in 2013. It has been used by development banks, bilateral development agencies, and countries to evaluate their procurement systems. It related to the objective of this study, which aims to promote sustainable recruitment practices following national policies and priorities. It also advocates for productive and responsible institutions. The methodology is based on the 2015 Recommendation of the Council of the Organization for Economic Cooperation and Development (OECD) on Public Procurement. It reflects the leading international frameworks on procurement, such as the Model Law on Public Procurement of the United Nations Commission on International Trade Law (UNCITRAL) (2011), the European Union (EU) Public Procurement Directives (2014), and the procurement guidelines used by multilateral development banks, countries and implementing institutions.

Analytical framework

The Fundamental Core Elements consisted of a core assessment methodology and various supplemental modules. The core methodology outlined in this document provided a comprehensive approach to evaluating public procurement systems. It defined the structure to carry out a country context analysis, presented a system of refined indicators to assess the quality and performance of the system in terms of impacts and results, and described the critical elements of the evaluation process.

Complementary modules were developed progressively to complement the core evaluation methodology. These focused on specific areas of public procurement policies.

Analysis of the context of the European Union

This section presented a structured approach to analyzing the local environment to ensure that the evaluation is anchored in the particular needs of the member states and that the different elements of the analytical framework are appropriately applied. The context analysis was based on readily available existing information and data and focused on several factors that are essential to hiring reform. These factors related to the economic situation of the EU, its national policy objectives, the environment for public procurement reform, and the relationship between the public procurement system, public finance management, and public governance systems. Context analysis also included identifying key stakeholders that are formally and informally linked to public procurement structures.

Indicator system

The indicator system rested on four pillars: the existing legal and policy framework that regulates contracting in the country, the institutional framework, and management capacity, the system operation and competitiveness of the national market, and the accountability, integrity, and transparency of the recruitment. Each pillar had several indicators and sub-indicators to be evaluated. In total, the indicator system comprised several indicators and sub-indicators, which together presented the criteria for an instantaneous comparison between the current system and the established principles. The indicators were expressed in qualitative and quantitative terms, as appropriate. The indicators referred to the contracting law and the legal framework. The reference to the procurement law is related to the principal legal instrument that governs public procurement in the EU. The natural form of the supreme law varies according to the country, depending on its legal system (common law and civil law) and tradition.

In general, this document assumed a supreme legal instrument such as the Directives that encompass others, which is a national law, then proceeded to the regulations that offer a more extraordinary detailed legal interpretation, and detailed procedures for its administration. On some occasions, legal obligations related to public procurement may even stem from membership in international and regional associations or treaties. Other national laws, including budget, interpretation, or competition, may also impose

obligations that guide public procurement. The complete set of legal instruments related to public procurement was called the "legal framework."

Indicators application

Each indicator and sub-indicator explained those aspects that the sub-indicator sought to evaluate and describes the nature and importance of the element in question. It aimed to guide the evaluator towards the relevant aspects to be reviewed and the specific principles or standards. The evaluation criteria established the basis against which the system was evaluated (qualitative indicators) (United Nations, 2009, ss. 127-142).

A set of quantitative indicators provided an opportunity to substantiate the evaluation of various sub-indicators, considering data related to their performance. Each sub-indicator had to be evaluated using the following three-step approach: Review of the system applying the evaluation criteria expressed in qualitative terms. Review of the system applying a defined set of quantitative indicators and determination of substantive or material gaps (gap analysis) (Stephen W. Brown, 1989).

a) Step 1. Review of the system applying the evaluation criteria expressed in qualitative terms: it was based on the qualitative review of the regulatory framework and existing policies, as well as institutional and operational arrangements, to determine whether or not the described standard has been reached. Some indicators were not susceptible to evaluation using hard evidence (i.e., facts and figures), and this may require surveys or interviews with affected participants or stakeholders, including professional associations, civil society representatives, independent media or journalists research, and government officials. A narrative report provided information related to this comparison (current situation vs. evaluation criteria) and about the changes that can be found along the way. This report allowed the author to analyze the strengths and weaknesses of the system (Marton, 2013).

b) Step 2: Review of the system applying a defined set of quantitative indicators: the evaluation focused on the application of a set (minimum) of quantitative indicators. These were closely related to prevailing recruitment practices in the EU and are therefore often called performance indicators. Quantitative indicators are useful for displaying results, for example, by examining a sample of contracting transactions and other relevant information that is considered representative of system performance. The narrative report provided detailed findings of this analysis. In member states where the necessary data is not available or is not reliable, the

circumstances should have been specified in this writing. Quantitative indicators are not usually compared to established standards as a benchmark, but this research was able to use them to define baselines, set EU targets, and measure progress over time.

c) Step 3. Analysis and determination of substantive or material gaps: The evaluation findings were analyzed and interpreted in more detail and identified the areas that presented substantial or material gaps and required actions to improve the quality and performance of the system. To corroborate the gaps identified in Steps 1 and 2 of the assessment, a more in-depth analysis should be performed. It can be accomplished through a more comprehensive qualitative review of existing situations and an expanded analysis of public procurement practices (i.e., increasing the sample size of procurement cases analyzed).

Limits for the Application of the Indicators

On their own, the indicators could not give a complete picture of the contracting system, which, by its very nature, is complicated. The application of the indicators allowed the author to make professional judgments. Subjectivity was reduced to a minimum. Ensured the evaluations undertaken maintain reasonable consistency and comparability for this analysis. It is one of the most important objectives of the methodology of this research. Furthermore, the author had in mind that there is no single model of a contracting system and that a model has been developed around the member states, which can work well within a particular political, institutional or cultural environment but not in others.

The decision on the scope for performance measurement and data collection was specific to the community setting and is based on data availability and the objectives of the European Union. The decision considered both cost-effectiveness and sustainability of data collection and analysis to ensure long-term monitoring of hiring performance in recent years. It included an analysis of selected recruitment cases (sampling cases). It depended on the circumstances, and the strategic objectives of the EU focused on the highest spending agencies and, alternatively, along with different levels of government that covered various national and sub-national entities. All the quantitative indicators were aligned with the contracting data required in the evaluations based on the Methodology of the Public Expenditure and Accountability Program (PEFA, 2020) and its Performance Indicator in order to facilitate consistency in the evaluations.

1.7.3 Evaluation of public procurement systems

a) Legislative, Regulatory and Policy Framework

This pillar evaluated the current legislative, regulatory, and policy framework for public procurement. Identified the formal rules and procedures governing public procurement and evaluated how these compare to international standards. It encompassed recent developments and increasingly used innovations to make public procurement more efficient and Considered international obligations and national policy objectives, ensuring that EU public procurement lives up to its important strategic role and contributes to sustainability. These have referred to four elements of the legislative, regulatory, and policy framework:

- the supreme legal instrument that governs public procurement (laws, acts, decrees)
- regulations and other instruments that are more administrative
- provisions related to procurement in other national laws (for example, laws governing public / private partnerships and adjudications, trade and competition, access to information, anti-corruption, alternative dispute resolution, state-owned companies)
- the obligations derived from international agreements to ensure consistency and policy coherence

b) Regulations and tools in support of the implementation of the legal framework.

This indicator verified the existence, availability, and quality of applicable regulations, as well as operating procedures, manuals, model contract documents, and standard contract conditions. It was an ideal situation since the Directives provided a framework of principles and policies that regulate public procurement, the national rules of the member states, and the more detailed instruments that complement the law, make it operational, and indicate how to apply it to specific circumstances. This indicator was made up of four sub-indicators:

- Implementation of standards that define processes and procedures
- Model contracting documents for goods, works, and services
- Standard contractual conditions

- Guide or User Manual for contracting entities

c) The legal framework reflects the country's complementary policy objectives and international obligations

This indicator evaluated whether the complementary policy objectives such as the goals aimed at increasing sustainability, support for certain groups in society, and the obligations derived from international agreements. Observed whether these are reflected consistently and coherently in the legal framework, that is: whether the legal framework is consistent with the highest political objectives of the EU (OECD, 2020). This indicator was divided into two sub-indicators, which were evaluated individually:

- Sustainable Public Procurement (SPP)

- Obligations derived from international agreements

1.8 Data collection methods

The primary data techniques used in this thesis were participant observation, secondary source analysis, and questionnaires (Walsham, 1995, ss. 74-81). Personal interviews also constituted one of the most important and valuable sources of information in this written investigated by Orlowski and Baroudi (1991). The taxonomy of the actions research applied here are the data and collections techniques according to the Educational Research 2e: Creswell (2002) is the *experience* through observation and field notes through observation and field notes, participant observation (active participant), a privileged keen observer and passive observer. *Enquiring* that applies when the researcher asks records informal Interview, structured formal Interview, questionnaires, attitude scales, and standardized tests, and e*xamining* that involves using and making records denotes archival documents, journals, maps, audio and videotapes, artifacts and field notes. In evaluating a measurement method in this research thesis, it is considering two general dimensions as are reliability and validity. Security refers to the consistency of a measure. Psychologists study three types of unity as over time (test-retest reliability), across items (internal consistency), and different researchers (inter-rater reliability). To talk about validity usually must divide it into several distinct types. Still, the right way to interpret these types is that there are other kinds of

evidence in addition to reliability that must consider when judging the validity of a measure.

Creswell survey validation methods (2002) and the survey verification of Jane sick members (2000) to confirm findings and to ensure the validation of the respondents. The conducting member verifications for establishing the conclusions through the confirmation of the same participants should ask to comment on the accuracy of the textual citations. It will obtain approval to use direct personal appointments in the written or verbal reports of the study. Captures that all the participants that make up the summary of findings do it adequately and accurately represent the perspectives of the results (John W. Creswell, 2006, ss. 8-16).

1.8.1 Collecting data

Then qualitative techniques to examine, pretest, and posttest can compare and interpret. In this thesis, such a methodology based on the two parts mentioned above. The first based on the collection of primary and secondary information, classifying and analyzing data from the leading national and international authors, in addition to the regulatory provisions in this regard, including articles, reports, research, evaluations, statistics, presentations, and symposia, among others.

About the method to be applied, it is good to emphasize that it will base on performing qualitative analysis, on the one hand, of the legal effects of the legislation coming from the EU, its general principles, and the legal framework of Finnish public procurement. Moreover, it will investigate the form or status in terms of Public Contracts, the types of internal controls present, and those that could support legal and budgetary ones to obtain a better result. From this analysis, it will seek to investigate how the norms presented to solve the current dysfunctions in the subject to be studied. Control guidelines are used for this, as well as to find out why other types of commands are essential, and what benefits those produce.

In such an analysis, the information to be collected will come from Finland in the Practical Administrative Recruitment Journals; Public Audit Magazines; Finnish Transparency Magazines (review of articles in magazines, between 2012 and 2020); Finnish Competition and Consumer Authority (KKV); Finnish Institute of Public Management

(HAUS); Ministry of Public Administration in Finland (KESKUSKAUPPAKAMARI) among others.

International bodies to be consulted: World Bank; United Nations (UN); European Union (Commission, European Parliament and Court of Auditors); European directives of the third and fourth generation in public contracts; International Transparency; Organization for Economic Cooperation and Development (OECD); the International Support Agency for the Improvement of Management and Governance (SIGMA); The foundations of the Project Management Institute (PMI) PMBok; reports and studies of universities-public-private research centers; Websites on contracting in Europe and America, among some others.

In the second part, the information analyzed and grouped, structuring it in the index of this study -according to the researcher's approach-, using the methods as mentioned earlier, such as descriptive, comparative, explanatory, and finally inductive.

1.9 Structure of the thesis

Table 1. Construction of the thesis theory.

Chapter and the main topic	Subchapters	Description	Research methods	Output
Chapter 1 Introduction	1.1 – 1.9	General background, research questions, and delimitations of the thesis	Literature research	Introduction to literature and empirical research
Chapter 2 EU Public Procurement and its Contractual implementation	2.1 – 2.17	Public Procurement, contractual implementation, management theory, contract object, public procurement procedures, criteria awarding, transparency, planning and management of the public Procurement, Public contracts standards, optimal cost-quality ratio	Literature research	Legal Framework, Contract Implementation, and Risk Allocation. Tender Process Leading to EPC Contracts. Public administration role, Risk Management, contract evolution, Public management. Contract Completion and Critical Issues.
Chapter 3 Viability of EPC Contracts for the provisions of Marine and Offshore Infrastructures	3.1 – 3.11	Understanding and diagnosing the viability of the EPC Contracts within the EU Public Procurement	Action research	Solve the puzzle and guidelines for the best viability of turnkey contract practice—alternatives as Public-Private Partnership and its feasibility.
Chapter 4 Discussion and conclusions	4.1 – 4.5	Theoretical and managerial contribution, interpretation and description, new insights	A synthesis between literature and action research	Discussions about the parallelism that takes both procurement management and the legal environment limitations

2 EU PUBLIC PROCUREMENT AND ITS CONTRACTUAL IMPLEMENTATION

Public procurement has been transforming for years into a critical strategic pillar in state structures, increasingly being a challenge for administrative law in how to adapt it and merge it with the available apparatus. Challenge for internal administrative management on how to achieve an effective, efficient, transparent, and competitive public purchase, which ends up improving the trust of citizens in the government and the governance (INGP 2014, 2).

As has been alluded to, the importance of this matter is virtually affected by its significant flows of public resources involved, its crucial contribution to the economy, and the large percentage of GDP that it involves. At present, its fundamental objective of supplying the inputs for the State to function is being complemented by those that support, promote and develop other policies, opting for it is a function of public provisioning strategically relevant for the governments of today.

Public procurement is conditional on public law and is part of administrative law (Ministry of Trade and Industry, 2020, s. 1). It is taking the latter as its objective, the organization, means and rules of the activity of public administrations, and the consequent legal relations between those or other subjects. As a result, administrative regulations are intended for public administration, which is a statutory right and framed in contentious-administrative jurisdiction.

From a universal perspective, some speak of Global Administrative Law in public procurement, which exists because there is general administrative action made up of a set of global regulations. This fact highlights the common denominator of global principles stemming from Treaties, Protocols, and International Agreements, which have become the basis in administrative systems on this subject in different countries today. United Nations National Commission for International Law (2011), highly influenced by the principle of transparency and non-discrimination. Finally, highlighting the revised Agreement on Public Procurement in 2012. All of the above could then suggest that it is in Community Law where this unifying objective of principles, which should be transferred by each of the respective States, is crystallizing the most, to their national legislation on the matter.

In Europe, these principles are complemented by others, such as efficiency, effectiveness, competence, strict adherence to the rules, publicity, and honesty. Those as confidentiality, the motivation of decisions, economy, the achievement of social objectives, and protection of the environment. Without forgetting to add, as the OECD highlights, other supporting principles such as integrity, accessibility, electronic contracting, and supervision and control (OCDE 2016 b, 10).

Postulates, like jurisdiction, are demanded to be implemented by Administrations effectively from all the spirit and substance, seeking a public purpose over a one. Likewise, to ensure that these ends are appropriately implemented, control bodies must be created to oversee the practical observance of such general agreed principles and the regulations approved under their protection. Adding that without these supranational institutions, it is impossible to walk beyond simple declarations of intent, of remarkable spirit, but only binding from an abstract, almost moral, plane.

Visualizing the regulatory situation of public procurement in around eighty-two world economies, and according to the World Bank, must indicate that this matter is scarcely regulated by a single legal document, but by a set of normative instruments, laws, regulations, decrees, policies, and guidelines. Regulatory frameworks vary from country to country without being able to say which one is better. In several of these economies, the contracting law regulates the main sectors of government activities (World Bank 2017, 22-24). However, there are other complementary regulations in this regard that establish specific provisions for the energy, water, and public works sectors, among other topics. In some of these territories, the national legal framework puts pressure on the use of framework agreements, which seems to be the trend. However, it still depends on the willingness of governments to want to apply them (EU Policy Department 2014, 12-13).

Thus, both the principles of public procurement and its legislation must be established in a clear, complete, and transparent legal framework, characterized by the presence of easily identifiable legal norms that promote all the principles aforementioned, and that governs all aspects of the acquisition process. Minimum requirements should ensure wide publicity of bidding opportunities, record keeping, notify all criteria for contract award, an award based on objective criteria, public openness, access to a mechanism of complaints and suggestions, and the dissemination of the results of the acquisition process. (EU Policy Department 2014, 12-13). It should also be noted that, in July 2016, this body established a new contracting framework approved by its respective Council,

which is linked to modernizing the contracting system required by the institution for all the projects it finances (Official World Bank page, 2016).

Insisting on a public sector with an updated, uniform, operative, and active legal order of contracting that empowers the purchasing system in all its efficiency and effectiveness is an integral part of this issue. Letting go of interpretive subjectivities and misunderstood bureaucracies help develop evident knowledge for those who will oversee and control the process. Public procurement rules must be designed to benefit both economic operators and contracting authorities and directly to the public. Objectives should develop market opportunities for the former, and at the same time increase the options of potential contractors available to the latter, the preceding, by listening carefully to both parties and responding effectively to citizen demands which in recent times have been increasing (European Court of Auditors 2016, 10).

2.1 States of the European Union

All EU states have experienced, since joining, alterations of the source system, which has penetrated EU law—existing an autonomous and independent ordering of such countries, in the sense that it maintains individuality and its authority. However, it is inserted in the internal law of those countries and, obviously, with its sources of law production.

According to the European Commission, in this region, public procurement is an essential vehicle for the execution of government policies and the achievement of national strategic objectives (European Commission 2016 b, 1). The reforms on this subject have come mainly from European Law, leading this reality to transform this issue into one of the sectors in which the development of EU administrative law has gone further and, consequently, where the harmonization of legal systems the Member States are occurring with higher intensity.

The legislation encompasses both substantive, procedural, and remedial rules. It is adding the complete European "*corpus iuris*" that made up of both provisions of the original law and secondary law. It also derives from the decisive jurisprudence of the Court of Justice of the EU (CJEU) that has interpreted them and whose doctrine has been incorporating the current European Directives in this matter. From this signature,

the State reserves a set of powers under its sovereignty, and in this area, national regulations govern.

Public procurement is included in European law, and it is administrative law. The Europeanization of law is today a reality, mentioning that there is a legal system at the level of the member states of the union, which based on similar principles and conditions. In this way, and from an objective point of view, this public provisioning function embodied in the division between public administrative contracts and private-public contracts. According to the European Parliament, the first one is mainly applied to the acquisition process. At the same time, the latter is primarily implemented to contract management after a contract has been awarded (European Parliament 2013, 24).

As the European Commission argues, the focus of EU legislation is mainly focused on the procedures that the authorities must follow to organize a free purchase for a value higher than the established thresholds (European Commission 2011 a, 6). This contractual framework, being a phenomenon that affects community liberties, has had to be disciplined through EU Directives and closely monitored by the respective Court of Justice. Its jurisprudence has also allowed the formation of the regulations of the member countries and guide the practice.

Many objectives and purposes of the EU intervention in this matter have been, among others, to promote the proper functioning of a market-based economic process. The aforementioned requires uniformity of the legal framework, open markets to companies, create the necessary conditions of competition, submit all onerous contracts to the principles that underlie this contract and ensure compliance with the principles that determine this public activity. Currently, and as a priority challenge, the European Commission should promote a cross-border use of this matter of contracts, which should cease to be national, to become European.

In this way, and regarding legislation that can form a single market, the Court of Auditors of the EU has stated that it plays a vital role in its development and the efficient and effective use of public funds (European Court of Auditors 2016, 8). Regarding the first, it is reflected in defining a coinciding regulatory framework for all contracting authorities, and with it, consequently increasing the economic integration of the countries in question. Therefore, uniformity of the legal framework in activities of the economic agents that participate in it is a claim.

Thus, how the EU has tried to create prosperity and secure peace in Europe has been through the establishment of a stock market, seeking to eliminate obstacles to trade. This creation of prosperity has been based on the premise that is opening markets to foreign competition will improve economic well-being, while generating a dependency on trade between them that could reduce the risk of hostilities in the future. Similarly, saying that such a premise has been established in the "four basic freedoms" of the EU: free movement of goods (TFEU § 29-30), free movement of workers (Free Movement of Workers Regulation §1-7), free movement of services (TFEU § 49,56), and free movement of capital (TFEU § 63). Thus, removing barriers between governments is one aspect of this policy of removing trade barriers, and it is this that provides the foundation and legal basis for the EU's government procurement regime (Sue Arrowsmith 2010, 44).

Concerning the second objective of this legislation - which seeks a more efficient and effective use of resources, such regulations provide incentives to use public funds effectively. Its application reduces the risk of fraud and corruption. However, it must also warn that such contribution will only be real if such provisions are adequately complied with and are modified and eliminated in search of an optimal system that does not fall into legal dispersion and insecurity.

Giving an overview in the EU about what laws and regulations are currently applied in this matter, it is possible to see roughly the following:

Figure 3. European Legislation Structure for Public Procurement.

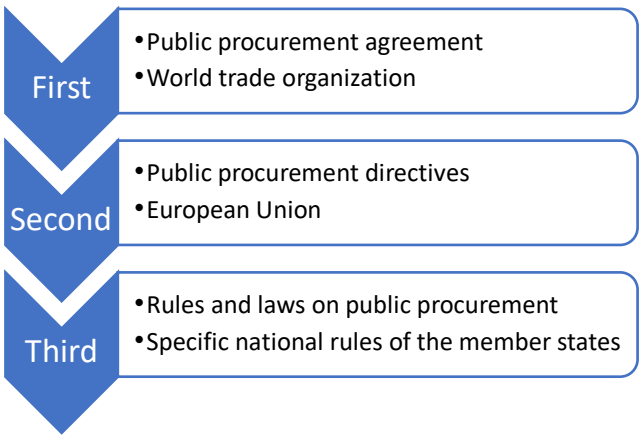


Figure 3. Source. Information from the European Court of Auditors (2015).

Then, and even more precisely, the rules and regulations established in the region can be grouped as follows:

Table 2. The first law, TEU, TFEU, and general principles.

ORIGINAL LAW	**TEU and TFEU[1], GENERAL PRINCIPLES**
CURRENT DERIVATIVE LAW	Directive 2014/23/EU concessions; Classic Directive 2014/24/EU; Directive 2014/25/EU sectors; Directive 89/665/EU resources; Directive 92/13/EU resources sectors; Directive 2009/81/EU defense and security; Directive 2014/55/EU electronic contracting; and Regulation 2195/2002, CPV
JURISPRUDENCE TJUE	
UNIFICATION OF SUBSTANTIVE AND PROCEDURAL RULES IN THE 27 MEMBER STATES	

Source. TEU, TFEU.

Membership in the EU results in a distribution of powers between that State member and the EU group of countries. On the one hand, such a nation reserves a set of competencies under its sovereignty, and in this area, national norms govern. Moreover, on the other, there are other matters transferred to the EU that govern both the original EU law, as well as the acts and regulations adopted by the European institutions, and the derived EU law. In this way, public procurement presents rules from two legal systems (community and national), which coexist in each Member State having the same recipients (natural and legal persons). It is for the above, that when interpreting the internal regulations by the contracting authorities and national courts, it is mandatory to take into account both the principle of autonomy of EU law, as well as the principles of direct effect and primacy of right in this region cited above. The latter is based on the principle of primacy, where EU law has a higher value than the sovereign rights of the Member States, understanding the obligation not to apply a national rule contrary to EU law.

[1] The TEU establishes the principles of the EU demarcating its objectives, and the TFEU illuminates with functional and organizational details. The TEU is the current EU treaty with amendments (Maastricht Treaty). The TFEU is the EC Treaty, which has a series of amendments.

Regarding how this legal regime has developed, it must be said that it has not been immune to dysfunctions—finding, for example, in one of the latest reports of the European Court on the audit of how the Regional Development Funds have been implemented (ERDF), Cohesion Fund (CF), and European Social Fund (ESF). During the period 2009-2013, the following findings were found: "*According to 90% of the 69 audit authorities that responded to the survey carried out for the audit, indicated that the legal framework for the award of public contracts in each country is more complex than necessary. Respondents noted that the errors are mainly due to the large volume of legislation or guidelines, the difficulty of applying them in practice, and the lack of technical knowledge to carry out the public procurement procedure. Almost half part of the respondents pointed out that the aspect that could be most improved would be the simplification of procedures*" (European Court of Auditors 2015, 12).

Although the legal framework of the countries in the EU has the same background, it nevertheless presents various forms or rather realities of how it is applied. Whether due to internal territorial divisions, functional autonomies, or political decisions, among others, being in some of these States, too many provisions and articles that generate less efficiency than this propose. In other cases, provisions applied only to part of the public sector. In the same European Parliament Resolution of 25 October 2011 on the modernization of public procurement in EU states, it is argued in this regard that it is crucial to simplify rules and allow for more flexible procedures (Official Journal of the EU. Third mission, 27). The European Commission warns in 2016 that in many States, the management of the different parts of the public procurement system could be considerably improved (European Commission 2016, 1).

Lastly, when referring to the status of the provisions regarding sanctions for acts of corruption in this area, the European Commission has maintained that in most countries, this vice is criminalized as bribery and influence peddling. Pointing out that in some territories, public contracts include an anti-corruption clause that guarantees more effective monitoring in the event of practices such as this during the term of the contract (European Commission 2014, 37). Furthermore, the European Parliament has expressed that most countries use judicial, administrative, or civil review in its processes. It was noted that in almost all of those, the review bodies could suspend or cancel decisions related to the award procedures. At the time of the contract review, some States may use the cancellation or apply alternative sanctions such as financial penalties or shortening the duration of the contracts (European Parliament 2013, 36).

It is in this way that the European Commission has established actions to strengthen sanctioning regimes. It is highlighting among them the guarantee of the application of dissuasive sanctions concerning corrupt practices. Abolish favoritism or conflicts of interest, and in turn, guarantee effective follow-up mechanisms to withdraw decisions and cancel contracts in time, when irregular practices have affected the process (European Commission 2014, 39). Diminish such corrupt practices, which are generally complex cases, according to this body. Specific technical knowledge is required to guarantee the effective and equitable processing of judicial procedures—not forgetting to note that in some Member States, there are still deficiencies in the training of judges and prosecutors in this area (European Commission 2014, 37).

2.2 legal framework

The European legal framework that regulates public procurement (1397/2016 Act on Public Procurement and Concession Contracts, 2016) made up of:

- The TFEU or Treaty on the Functioning of the European Union.
- Directive 2014/24/EU regarding public procurement amending Directive 2004/18/EU
- Directive 2014/25/EU regarding on procurement by entities operating in the water, energy, transport, and postal services sectors
- Directive 2014/23/EU regarding on the award of concession contracts
- Council Directive 89/665/EEC. Regarding the coordination of the laws, regulations, and administrative provisions and the submission of review practices to the award of public supply and works contracts
- Directive 2007/66/EC concerning improving the effectiveness of review procedures concerning the award of public contracts. Amended Council Directives 89/665/EEC and 92/13/EEC regarding the improvement of the efficiency of review practices concerning the award of public contracts

2.3 Public procurement directives

The directives are a norm that is not directly binding (Directive 2014/24/EU, 2014, s. (5)). These bind the Member States to take the necessary provisions to incorporate or transpose into domestic law, through ad hoc regulations, the scope of their objectives, and to carry it out within the established period in this very arrangement. Under article 288 (TFEU), it demarcates that these supranational provisions "bind the recipient Member State as to the consequence to be achieved, leaving the national authorities the choice of form and means."

However, these numerous provisions to be applied require an internal rule of incorporation into each national law. When a Directive has been correctly incorporated into this right, its effects reach citizens through national measures. However, when this has not happened, the principle of direct effect established by the Court of Justice plays. Thus, there will be a practical effect of it when the respective States incorporate their content into the national legal system, where during the period of transposition, it will present an interpretative value (European Commission, 2011 b, 3-4).

The normative precepts have been articulated around five inspiring principles: simplification and flexibility strategic to use public procurement, procedures in response to new challenges, improved market access for SMEs and new companies, the integrity of procedures, and governance. The main objective is to guarantee the efficiency of public funds since two primary purposes pursue this objective. First seeks greater efficiency in public spending, instrumentalized in regulatory simplification and flexibility, and more rational and efficient procedures. The promotion of the participation of SMEs and cross-border bidders are also included[2] (it can also be manifested in the European Code of Good Practices to Facilitate the Access of SMEs to Public Contracts in 2008)[3]. On the other hand, there is its strategic use that opts in the fight against climate change, the protection of the environment, and greater energy efficiency in the use of resources. Additionally, it also pursues the improvement of employment, social integration, and the provision of high-quality social services in the best possible conditions (Lynch, 2013, ss. 8-16).

[2] There is a concern for SMEs expressed, among others, in Recital 59 of Directive 2014/24/EU, where it stresses that collusion should be avoided, competition and market accessibility should be promoted.

[3] The policy of the Ministry of Economic Affairs and Employment in Finland (2016), has published the “Finland implements SME Initiative: Creating new opportunities for economic growth and jobs”.

These directives regulate the publication and organization of procedures, applying universal principles of transparency, open competition, and management throughout the European market (European Commission 2011a, op. Cit., 5). As highlighted by the European Commission, it is designed to achieve a competitive, open, and well-regulated procurement market (European Commission 2016b, op. Cit., 7). Likewise, it should be noted that it regulates from its content how public money is spent, but not what that money is used for it. For this reason, it is not intended to standardize all forms of disbursement of public funds, but only those intended for the acquisition of works, supplies or services provided through a public contract (Directive 2014/24 / EU Recital 4).

In highlighting the evolution of these provisions in question, it must mention Directive 71/305/EEC of 26 July 1971, and 77/62/EEC of 21 December 1976. In the nineties, the second generation of directives appeared, such as 90/531 and 92/50, including those known as Resource Directives 89/665 and 92/13. In 1993, there were modifications of these that gave rise to Directives 93/36, 93/37, and 93/38/EEC. Subsequently, in 2004, the third generation of directives appeared, consisting of 2004/17/EC and 2004/18/EC.

During 2014, the EU approved three directives referring to fourth-generation public contracts. These are identified as Directive 2014/24/EU, of 26 February 2014, on public procurement, which repeals the Directive 2004/18/CE (Contracts Directive). Directive 2014/23/EU emitted on 26 February 2014, regarding the awarding of concession contracts (Concessions Directive). Directive 2014/25/EU emitted on 26 February 2014, on contracting by entities operating in the energy, transport, water, and postal services sectors, and which repeals Directive 2004/17/EC (Special Sectors Directive)[4]. Within these three provisions, public procurement is mainly governed by Directive 2014/24/EU, followed by the others that establish standard rules that must be followed by contracting authorities for acquisitions above a certain threshold, and that must Incorporate into national legislation[5].

[4] The Public Procurement Administrative Court (2016), op. cit. p. 3. The dates on which the directives had to be incorporated into the law of all the EU States were January-February 2016, mandatory for all EU Member States, electronic notification in the contracting process and access to procedural information electronically. January-February 2017 for compulsory electronic bidding for contracting centres. June-July 2018 for compulsory electronic contracting for all EU Member States.

[5] European Court of Auditors (2016), op. cit., p.11. It notes that these directives are not legally binding for the EU institutions. The latter have adopted their standards, which are broadly in line with the 2014 procurement directive with some important exceptions. Regarding the Resources directives, Directive 89/665/EEC, applicable to works and supplies contracts, and Directive 92/13/EEC, for contracts sectors, are currently in force.

European Commission is convinced that such directives generate more efficiency and transparency in public procurement. With smarter rules and more outstanding electronic procedures, these were contributing to the achievement of broader political objectives, such as those indicated on environmental and social aspects related to innovation (COM/2016/792 final, u.d.). Furthermore, in the Commission's report to Parliament and the Council on the effectiveness of the directives on appeal procedures in the area in question, such body has argued that the directives on appeal procedures have generally met their objectives of increase guarantees of transparency and non-discrimination (COM/2017/028 final, 2017, s. (3)).

The document "Summary of the evaluation of the impact and effectiveness of the EU legislation on public procurement," revalued By Racca (chapter nine, section four), expressed in detail gathers opinions and suggestions from more than six hundred professionals on the effectiveness of the current directives. It concludes, "have fostered openness and transparency, which has led to an intensification of competition, which, in turn, has resulted in cost savings." The above and based on an estimated saving of 5% made on the 420,000 million Euros of public contracts that are published at the EU level, could obtain additional savings or public investment of more than 20,000 million Euros. It would generate an increase in employment and GDP of between 0.08 and 0.12% after a decade. In sum, and in general, the European Commission estimates that these new rules should reduce the administrative burden on companies by more than 80% and that the use of electronic means in contracting processes will reduce the cost of contracting between a 5% and 20%[6] (Racca, 2020, s. 618).

Highlighting what has been said, the legal importance of this community regulation is underlined, indicating that it contributes to a unification of the different legal frameworks of the respective States, seeking not only to harmonize legislation but also to uniform it legally. Thus, these directives seek to ensure that all companies in the internal market have the same opportunity to compete. As far as possible, these also try to remove the legal and administrative obstacles that make participation in cross-border tenders difficult, ensuring the standard principles.

Another critical aspect of these precepts, it is denoted that the focus of these directives is on public contracts with higher thresholds, leaving the States free to regulate their acquisitions (European Commission 2011c, 53). In practice, it has been shown that most

[6] European Commission. Document "Summary of the evaluation of the impact and effectiveness of EU public procurement legislation". Commission services working document, pages 18-19.

territories also regulate their public contracts for less than the thresholds set by the EU, at least, as the European Commission maintains, in the conventional purchasing sector called traditional sectors.

This described situation has made the Administrations foresee a less strict regime for their contracts of lesser amount, concerning the EU thresholds, thus providing administrative instructions instead of trustworthy legal provisions (European Commission 2011b, op. Cit., 3-5). Thus, and although the institutions have their own contracting rules that are broadly in line with the directives, there are nevertheless some significant differences that the European Court of Auditors has considered not justified (European Court of Auditors 2016, op. Cit., 8). Which ultimately end up affecting legal certainty, efficiency, effectiveness, and transparency of the acquisitions of smaller amounts.

Differences and the uneven practice in the different States in treating the acquisitions under and above the thresholds regulate by directives have been generating specific criticisms in this regard, of which two stand out. The first is that which allows public bodies to divide a contract in order to remain under the threshold of the EU or the respective national legislation, and thus be able to evade, eventually, some contracting procedure (SIGMA 2013, 6-7).

The second is related to the lack of revision and adaptation of the respective thresholds. The effect of this is that the current limits do not reflect any improvement in productivity or reductions in transaction costs obtained during the last 40 years, as these remain stable in nominal terms and change only due to external pressures or the inertia of inflation. Such thresholds have functioned effectively as a ceiling and a floor in the internal public procurement market, accepting themselves as such and never questioning their existence.

Directives 2004/EC paved the way for current fourth-generation directives, promoting openness, transparency, and, thus, cost savings. The evaluation showed that there were differences in the transposition and application of these. It led to different results in the EU countries in the time necessary for the development of the procedures and the cost borne by the contracting authorities (European Commission 2011, op. cit., 18-19). This reality, as can be argued, has not changed significantly with the current directives issued in 2014. At present, the latest directives on public contracts should have been transposed by the member states no later than 18 April 2016, showing that only half of the territories (approximately) had done so by September of this year (European Commission 2016,

op. cit., 8). This task has been deficient in recent years, highlighting that the countries that occupy the first positions in the international rankings on corruption, also lead the sentences of the CJEU for non-compliance with Community regulations on this matter.

Thus, and finally, it should be noted that the challenges of transposing such precepts must be based fundamentally on implementing new public governance. Incorporate as management paradigms the effectiveness, efficiency, and integrity that allows promoting a harmonized and transparent management model of public funds. Boost the market and finally democratically legitimize the political model. Finally, the EU adds that, although efforts have been made to improve public procurement practices and result through the implementation of such community provisions, for many countries in the region these are still only a suggestive proposal, with good intentions, and not binding (European Union 2011, 29).

Likewise, it is also relevant to end by highlighting the recommendations and opinions generated by the aforementioned international body, which, although these are not normative, not binding, serve as a guide to the specific policies or actions of the member states. In fact and practice, most of these EU countries rely on these precepts to validate their national provisions.

2.4 The horizon of social goals

The perspective that can be glimpsed of this type of objective, it should be mentioned again that in a context of growing global acceptance of the need to channel development into patterns of sustainability. The environmental and social dimensions have become increasingly important, including also in government purchasing systems. Thus, starting from the World Summit for Sustainable Development (2002), an international process began to promote the modification of production and consumption patterns in different countries, a process that today is being progressive (UN, 2012).

On the European continent where, according to the European Commission, only a limited number of States have actively participated in the definition of contracting policies on innovation, the environment, and social responsibility, has led to excessive use of the lowest price as an award criterion (European Commission 2016, op. cit., 6). The social objectives can be seen firstly expressed in the "*Interpretative Communication of the Commission on Community legislation on public contracts and the possibilities of*

integrating environmental aspects in public procurement" and in the "*Interpretive Communication of the Commission on Community legislation of public contracts and the possibilities of integrating social aspects in said contracts*" (Commission of the European Community, 2001), both in 2001.

Then, in 2004, it can refer to Directive 2004/18/EC of 31 March 2004, where it begins to talk about social and environmental criteria more frequently. Subsequently, it addresses the European Parliament Resolution of 25 October 2011. On the modernization of public procurement, which "Urges the Commission to encourage governments and the contracting authorities to make more use of sustainable public procurement, supporting and promoting high-quality jobs and providing quality services and products in Europe" (Official Journal of the EU. Second mission, 14). Likewise, the new fourth-generation directives on public contracts are highlighted, which impose a new objective on all contracting authorities. Use its contracts strategically to implement with the community policies regarding the promotion of innovation, the promotion of the participation of SMEs, and the incorporation of social and environmental considerations.

This participation of SMEs, and its requirement to apply said criteria, do not restrict competition, but rather suppose an adequate regulation of it, choosing to give priority to the most advanced legislation in the application of said policies public. It is a good practice in the selection stage that compliance with community environmental and social policy legislation is required and valued (European Commission, 2016).

The European Commission (2017), has defined priority areas for the improvement of the public procurement system among its member countries. It was encouraging States to develop a strategic approach to purchasing policies, focusing among its six priorities, that referring to greater acceptance of innovative, ecological, and social criteria in the award of public contracts (COM(2017)572 Final, 2017, ss. 5-7). As regards the Finnish Republic, and according to the Ministry of Economic Affairs and Employment, public procurement has become an increasingly global issue. It is acquiring the quality of a global problem (Ministry of Economic Affairs and Employment of Finland, 2017). It is proposing that decisions on this matter to illustrate the challenges related to achieving sustainability in a global economy.

2.5 Public contracts negotiation

When start talking about the Negotiations of Public Contracts, it must preestablish that all procedures within these negotiations must respect the principles of the Union law and the freedom of establishment, movement of goods, and the freedom to provide services. Policies derived from these are equality of treatment, non-discrimination, mutual recognition, proportionality, and transparency. It cannot leave behind respect for free competition, confidentiality, and efficiency (European Parliament Report, 2013).

These are the thresholds triggering EU-broad rules: € 144 000 for supplies contracts for defense only those listed in Annex III of Directive 2014/24. € 221 000 for supplies contracts for defense products not listed in Annex III of Directive 2014/24 and EUR 443 000 for supplies and services contracts for water, energy, transport, and postal services. € 5 548 000 for all works contracts. The other public authorities: € 221 000 for all supplies and services contracts. € 443 000 for supplies and services contracts for water, energy, transport, and postal services and € 5 548 000: all works contracts.

Among the types of procedure call for the tenders (European Union, 2020) corresponding to certain types of procedure based on a system of thresholds completed. Approaches for calculating the estimated value of each public contract and indications on the procedures to be applied, with mandatory or indicative character, as established the Directives.

In the open procedure, any attracted economic operator may submit an offer, while, in the restricted process, only invited candidates may do so. In the bidding procedure with negotiation, any commercial operator may apply for participation, but only the commercial operators invited after the evaluation of the information provided by them may submit an initial offer, which will be the basis for further negotiations.

In competitive dialogue procedures allows any economic operator to apply for participation, but only invited candidates can participate in the dialogue. This process used when the contracting authorities are not able to define the ideal means to satisfy their needs or to evaluate the solutions that the market can offer — the contract award on the sole basis of the award criteria of the best value for money (European Union, 2020).

Here is a new procedure that is the partnership for innovation, for cases in which an innovative solution require that is not yet available in the market. The contracting authority decides to establish an association for change with one or several partners that carry out independent research and development activities, to negotiate a new innovative key during the offering procedure. Conclusively, in specific cases and circumstances, contracting authorities may award public contracts through a negotiated process without prior publication of a contract notice (Fact Sheets on the European Union, 2019).

2.6 Public procurement contracts

Public authorities conclude contracts representing a transaction volume of EUR 2 448 billion, indicating that EU public procurement is one of the main drivers of economic growth, job creation, and innovation. The public procurement package approved by the Parliament and the Council in 2014, annually enters 2,8 billion euros into the GDP of the EU. In addition to those above, the EU Public Procurement Directives have increased the overall award values, from slightly less than € 200 billion to approximately € 525 billion. The legal basis lies in Articles 26 and 34, article 53, paragraph 1, and articles 56, 57, 62, and 114 of (TFEU) (European Parliament, 2020).

The European Community issued legislation aimed at coordinating the national provisions in which it imposed obligations regarding the advertising of tenders and the application of objective criteria for the control of these. Adoption since the 1960s of various legislative acts, the EU decided to simplify and coordinate public procurement legislation, adopting four Directives (Directive 92/50/CEE, Directive 93/36/CEE, Directive 93/37/CEE, and Directive 93/38/EEC), merging three of them into Directive 2004/18/EC, on the harmonization of the procedures for the award of public works, supply and service contracts.

Directive 2004/17/EC is referring to the coordination of contract award procedures in the sectors of energy, water, postal, and transport services. Directive 2009/81/EC introduced precise rules for public procurement in the field of defense to facilitate access to the defense markets of other Member States (EurLex, 2020). The reform of the previous ones started in 2014. The Parliament and the Council adopted a new package on public procurement, including Directive 2014/24/EU, on public procurement (which repeals Directive 2004/18/EC), and Directive 2014/25/EU of 26 February 2014 on contracting by entities operating in the water, energy, transport, and postal services sectors which

repeals Directive 2004/17/EC. This available package is completed by a new concessions' Directive 2014/23/EU, which establishes an adequate framework for the award of concessions, guaranteeing all economic operators in the union effective and non-discriminatory access to the Union market. It provides certainty about the applicable law.

External components of public procurement were also considered in the 2012 Commission proposal for a Regulation on the access of products and services from third countries to the Union internal market in the field of public procurement. Procedures to support negotiations for the access of Union products and services to third-country public procurement markets.

The Commission in April 2012 adopted a strategy on electronic public procurement (COM/2012/0179 final, 2012) intending to achieve full implementation of electronic public procurement by mid-2016. On 16 April 2014, the Parliament, and the Council on electronic invoicing in public procurement adopted the Directive 2014/55/EU. The Commission On 3 October 2017 published two communications COM/2017/0572 and COM/2017/0573 to make public procurement work in Europe for Europeans and to support investment in large infrastructure projects (European Parliament, 2020).

2.7 Contract object definition

It is one of the essential requirements of any contract. It consists of the object of the contractually created obligations that, ultimately, will be a giving, doing, or abstention. The contractual object must be real, possible, lawful, determined, or susceptible to determination without the need for a new agreement between the parties. Although it can be foreseen that a contract has an object that does not entail a patrimonial advantage, it is necessary to be valued economically. Thus, legal compliance is facilitated by employing timely compensation (California Civil Code, 2020, ss. § 1595-1599).

The first stage is to define the purpose of the agreement clearly. The second establishes whether the object of the contract constitutes a single work defined at § 1,2 Directive 2004/18/EC. The third step is to establish if the contract exceeds the threshold to publish it in the OJEU. In particular, the Contracting Authority (CA) should not divide more significant works, supplies, or services into smaller units to circumvent these thresholds. In the case of works, it must make a merger of all independent contracts in which there

is a functional and temporary relationship between them. In general, if the set of contracts pursues the same objective, the values must be added. If the aggregated benefits exceed the thresholds, the agreements shall publish it in the OJEU. Collaboration projects between several partners should consider the public procurement requirements at the project level, not at the level of each partner separately (Aris Georgopoulos, 2017, ss. 146-148).

After completing the steps above, the CA can decide whether to award a single contract or divide it into lots. Opting for a separate deal can entail economies of scale and scope and facilitate administration to the CA. The drawback is that the demanding financial or technical criteria established for bidders can reduce or eliminate the participation in the market of smaller or more specialized contractors. The division of the contract into lots presents the advantage of opening the competition to more potential bidders. In this case, the drawback is that, with more arrangements, the CA is more complicated to perform the management. Decisions about the agreement and its publication must be justified, which may also examine during the project audits. The detection of an undeclared conflict of interest may call into question the impartiality of the contracting process and lead to financial corrections (Regulation (EU) No 1303/2013, 2013).

2.8 Adapting the regulatory framework to markets' changes

European Commission has drawn two conclusions from the public procurement debate. First, that the union must take measures to ensure that the current public procurement system enables the promised economic benefits to be obtained; second, current instruments must adapt to a continually changing economic environment (COM/2017/0492 final, 2017). Considerable effort will be required from all those affected as Commission, the Member States, and the private sector. Although the rules and principles of internal market policy have been the same since the adoption of the Treaty of Rome (EEC), Europe has undergone enormous changes since the publication of the first public procurement directive in the 1970s. The information revolution, the change in attitude regarding the role of the State in the economy, together with the arrival of budgetary restrictions, privatization, liberalization of public services, the association between the public and private sectors, the increase in trade cross-border goods and services as a consequence of the internal market, have led to a very competitive trading environment and have strengthened public opinion on the need to fight corruption and

avoid the misuse of public funds. The main issue raised by the Green Paper (COM/96/583 final, 1996) debate was the necessity to simplify the legal framework and adapt it to the new digital age. While preserving the stability of its straightforward structure and avoiding unnecessary changes involving new legislative work at the Community level or national.

The Commission recognized that a stable legal framework is essential for the proper functioning of public procurement procedures and for maintaining the confidence of market players in the effectiveness of the system. However, the current legal framework is not an end. However, it exists to enable the total benefits of the single market obtained in the field of public procurement. It is the policies, the rules, and how it is applied that must be adapted to reality and not vice versa. Since evolution has taken place the publication of the first directives in the 1970s, the Commission recognized the need to reorient its policy and simplify its rules.

The current legal framework is involved, and the Commission recognizes the rigidity of its procedures, so it proposed to simplify the former and make the latter more flexible. In this context, simplification involved, on the one hand, clarification of the current rules and, on the other hand, their modification. Maintain the solidity of the legal framework and priority given to clarifying the current rules to solve the most complex aspects. When this is not enough, or when it considered that the legal framework does not offer sufficient flexibility in the face of new practices or market realities, the Commission plans to propose a package of legislative amendments (COM/2000/0275 Final, 2001).

The use of communication technologies in public procurement will determine the ability to adapt to the future and maintain competitiveness in the European industry. The systematic use of electronics will allow the procurement procedure carried out much faster and will significantly reduce transaction costs throughout the life cycle of the goods and services purchased.

The development of standards and their enforcement cannot, by itself, guarantee the obtaining of economic benefits. For this reason, other measures aimed at improving market access are also essential and necessary. It is essential to provide the different parties to a public contract with training that makes them true professionals to achieve effective purchasing management. This training should not focus on the legal provisions themselves but on how to use them effectively always, and how to develop new ways of working in an evolving market (COM/l998/143 final, 1998).

Efforts should be made to correct the relatively weak response of suppliers to the numerous commercial opportunities offered by public contracts. Ensure the importance of these, improving transparency and access to information about the importance of these contracts, of the general evolution of the market, and other useful data. Parliament has called for specific action in favor of the participation of SMEs. For this to work, steps must be taken concerning the general problems of supplier participation. It should be noted that all procedures must respect the principles of Union law.

2.9 Public procurement procedure

Procedures must respect the principles of Union law as are involved in the free movement of goods, the freedom of establishment, and the freedom to provide services. Likewise, principles as equal treatment, mutual recognition, non-discrimination, proportionality, and transparency (OECD-SIGMA, 2011, ss. 2-6). In addition to the above, it includes competition, confidentiality, and efficiency must also be respected.

Types of procedures:

- Tenders must correspond to certain types of procedures based on a threshold system that is completed with methods for calculating the estimated value of each public contract and indications on the procedures to be applied as established by the Directives.
- In an open procedure, any interested economic operator may submit an offer, while, in the restricted procedure, only invited candidates may do so.
- In the tender procedure with negotiation, any economic operator can submit a request to participate, but only invited economic operators after the evaluation of the information provided will be able to present an initial offer.
- In a competitive dialogue procedure, any economic operator may submit a request to participate but only invited candidates may participate in the dialogue.

2.10 Criteria for awarding contracts

Legal basis applies the Articles 26, 34, 53(1), 56, 57, 62, and 114 of the Treaty on the Functioning of the European Union (TFEU).

Contracting authorities should base the award of public contracts on the economically most advantageous tender criterion. Public procurement rules reforms introduced this new criterion based on the principle of the Most Economically Advantageous Offer (MEAT). It is intended to guarantee the best value for money (and not the lowest price), so for example, the quality, as well as the price and the life cycle costs of the works, goods or services in question are taken into account. This criterion attaches greater importance to quality, environmental and social issues, and innovation (European Parliament, 2019, s. b).

A European legal framework for public procurement was initially developed to ensure that companies across the European Single Market could participate in public contracts and to design competitions above certain thresholds. The purpose of the legal framework was to ensure equal treatment and transparency, reduce fraud and corruption, and remove legal and administrative obstacles to participation in cross-border tenders. More recently, public procurement has begun to encompass additional policy objectives, such as environmental sustainability, social inclusion, and the promotion of innovation.

2.11 Advertising and transparency standards

For this, it is necessary to draw up the tender documents, which determine the need and purpose of the contract in the technical specifications, the reasons for exclusion, and the selection and award criteria. Establish sufficient deadlines that allow bidders to prepare their proposals adequately. Properly announce the contract or invite candidates to submit a bid and provide clarifications if necessary (European Commission P. O., 2018).

2.11.1 Document drafting in public procurement

The procurement documents drafting is a fundamental step in the contracting procedure. Contracting authority will explain in them the needs and associated objectives, as the requirements for the market, that is, for all those interested in the tender. The number

and nature of the tender documents depend on the type of procedure chosen. However, in most cases, the recruitment file will consist of the following elements (European Parliament, 2019, s. c).

Creation of the ESPD

The Single European Procurement Document (ESPD) aims to reduce the administrative burden for economic operators and, in particular, for SMEs, stemming from the need to present a large number of certificates and administrative documents related to the reasons for exclusion and selection criteria. The ESPD allows economic operators to declare electronically that these operators fulfill the necessary conditions to take part in a public procurement procedure. The ESPD comprises of a formal statement by economic operators by which it can confirm that those operators are not excluded from the procedure under the grounds for exclusion and that these meet the selection criteria. Only the successful bidders will have to provide the complete documentary evidence supporting this declaration. This obligation may also be removed in the future once the evidence can be electronically linked to national databases (European Commission, 2020).

How does the ESPD work?

As of April 18, 2018, Member States implemented the exclusive electronic public procurement system. Until that date, the ESPD could be printed, manually completed, scanned, and sent electronically. To generate and use the ESPD, contracting authorities can use either an integrated tool in their electronic procurement platforms or the ESPD tool developed by the Commission. The Commission has developed a tool that enables contracting authorities to create their ESPD and attach it to the procurement documents (European Commission, DG GROW, European Single Procurement Document, and e-Certis, 2017). In this way, contracting authorities can adapt this document to their needs and export it in a machine-readable format.

The ESPD must be included along with the rest of the contracting specifications. Besides, the tender notice must state that candidates or tenderers must complete and submit an ESPD as part of the application or tender. Before awarding the contract, the contracting authority must require the bidder to whom it has decided to award the contract to send the updated documents proving the information declared in the ESPD. If the contracting authority already has or has full access to the relevant updated supporting documents or other documentary evidence through a national database, the

successful tenderer will not have to resubmit the supporting documents. Also, economic operators may reuse the ESPD that have used in a previous contracting procedure, confirmed that the information contained therein is still correct (European single procurement document and eCertis, 2020).

e-Certis, an online database of administrative documentary evidence

e-Certis is a free source of information that aims to help economic operators and to contracting authorities to identify the various documents and certificates frequently requested in public procurement procedures in the EU. It helps tenderers to determine the evidence requested by a contracting authority (for example, concerning exclusion reasons or selection criteria). It helps contracting authorities understand the documents delivered by an economic operator. It is predominantly useful in the framework of the cross-border procurement procedure when the different parties come from several Member States (European Commission E., 2018, ss. 56-58).

2.11.2 Draft contract

Within the tender documents, the contracting authorities must publish a draft of the contract to be signed with the successful bidder so that all economic operators know the legal framework that regulates the execution of the contract.

A well-written contract must include provisions on the applicable regulations, the object, the price, delays, faults, liability, dispute resolution, review clauses, intellectual property rights, confidentiality obligations, and other relevant aspects. The contract must be fair and balanced in terms of risk-sharing. In particular, the contracting authorities must avoid the contractual clauses or conditions by which have attributed risks to the supplier that are totally beyond its control. Therefore, this may limit the number of offers, significantly influence the price, or lead to litigation over the contract (European single procurement document and eCertis, 2020).

Contracting authorities are recommended to use the standardized pro forma contract issued by the legal department or its national public procurement agencies. It could also be useful to divide the contract models into specific conditions and general conditions, the latter being standard conditions and the first conditions adapted to each specific contracting procedure. In case of doubt, the contracting authorities must always appeal to appropriate legal advice. All bidding documents and the complete bid of the successful

bidder must be attached to the final contract signed by all parties (European Commission E., 2018, s. 58).

Definition of specifications and standards

The most important document of the contracting procedure is the specification and technical specifications (Wartsila, 2020). The purpose of the specification is to present to the market a clear, precise, and comprehensive description of the needs of the contracting authority so that economic operators can present a solution to satisfy those needs. It constitutes the basis for choosing the successful bidder and will be part of the final contract, which indicates what the selected successful bidder must deliver. It is final review and approval is, therefore, a crucial turning point in the recruitment procedure, and those who carry them out must have the knowledge, authority, and experience to undertake the task.

In general, the specification describes the needs of the contracting authority, the object of the contract that explains the services, supplies or works that are the subject of the contract, the contributions and the productions and the expected results, the required standards, and some reference and contextual material. In the time of drafting the specifications, the drafters should consider the fact that it has a direct effect on cost (European Commission P. O., 2018, ss. 86-91).

There are three types of specifications: based on contributions, production, or results:

- The contribution-based specification consists of a series of instructions on how to do works. This type of specification is hardly used (except in the case of basic contracting) because it is not flexible, does not usually reflect profitability, and may not allow the bidder to add value or innovate. It is usually used with an award criterion based on the lowest price.

- The production-based specification focuses on what is desired from service in commercial terms. Rather than on complete technical specifications of how the service is to be provided. Therefore, it allows tenderers to come up with innovative solutions that the contracting authority may not have come up with these.

- The results-based specification may be the easiest to develop, but it is the most difficult to assess and monitor. A description of a need and a declaration of expected benefits should be given, rather than the contractor's contributions or results.

The last two types of specifications can be combined, requiring bidders to develop a methodological proposal indicating how those propose to satisfy the requirements. Meanwhile, each tenderer could propose something different. The contracting authority should have the ability to evaluate such alternatives (Hendrickson, 2000, s. Chapter 8).

As a rule, well-prepared technical specifications should provide an accurate description of the requirements and offer a simple interpretation for economic operators and all interested parties. Therefore, it must include clearly defined, viable and measurable contributions, outputs, and outcomes. The information to be offered shall be detailed enough to allow economic operators to submit personalized offers. Technical specifications must consider the maximum to the extent possible the views of the contracting authority, potential users or beneficiaries of the contract, and external stakeholders, as well as market input (Hendrickson, 2000). Those will be produced by people with sufficient experience, either within the contracting authority or by using external experts. One of the crucial requirements is not to cite brand names or requirements that limit competition. Consider the accessibility criteria for people with disabilities or design for all users when the contract is intended for individuals, be it the public or the staff of the contracting authority. All the above must be approved by the relevant chain of command of the contracting authority, based on the applicable internal rules.

The technical specifications of the works must cover, as a minimum: the technical description of the works, a technical report, the design package (sketches, design calculations, and detailed plans), assumptions and standards, including working conditions (diversion of the traffic, night works), quantitative estimate (if applicable), price list of works and a calendar. If applicable, the technical specifications will provide explicit revision clauses that allow a certain degree of flexibility to introduce possible contract modifications during execution. Review clauses should clearly and precisely specify the magnitude and nature of possible changes and should not be worded in general terms to accommodate all possible modifications. Likewise, the conditions under which these can be used must be indicated (European Commission P. O., 2018).

Object

The information included in the tender notice or the tender documents must be sufficient for potential bidders or candidates to identify the object of the contract. For example, technical specifications should not describe only the terms "furniture" or "vehicles"

without specifying the type of furniture or vehicle being purchased (Law Insider, 2020). The people in charge of writing the specifications must have sufficient competencies to precisely define the needs and expectations and must turn to other interested parties to fulfill this purpose. Specifications must describe their subject matter clearly and neutrally without any discriminatory reference to specific brands or companies. If for objective reasons, this cannot be avoided, the contracting authorities must always add the mention or equivalent.

Budget

It is a good practice to include the estimated budget (i.e., the estimated value of the contract) in the tender notice or the technical specifications so that the procurement documents are as transparent as possible. Therefore, it implies that the indicated budget must be realistic for the works, services, or supplies that are the subject of the contract. The value of the contract not only indicates bidders to establish its commercial offers but also provides vital information on the results and quality levels expected by the contracting authority. It can always hold a public tender without setting a budget. However, the procurement documents must state that the contracting authority reserves the right not to proceed if offers are not received at a reasonable price (or for any objective reason). In these cases, the contracting authority should at least define a maximum acceptable price internally before starting the procurement procedure, and precise technical specifications should be drawn up (Kerzner, 2009, ss. 851-859).

Variants

Generally, economic operators should prepare their tenders based on what is requested in the tender documents. However, contracting authorities may decide to accommodate different approaches or alternative solutions. For this can allow the proposal of variants. In the tender documents, including the tender notice, it must be specified whether variants are accepted or not. In case of those are accepted, the contracting authority will guarantee the following:

- the possibility of presenting variants should be addressed in the planning phase. The market study should reveal, if possible, the possibility that the contractor may carry out the project specification with different methods than those foreseen. If so, and if the contracting authorities are willing to admit this possibility, the specifications must be drafted accordingly.

- Contracting authorities may invite to submit variant bids only for production or performance-based specifications, but not for input-based specifications in which contracting authorities provide instructions to bidders. The contracting authorities must establish the minimum requirements for the variants.

- The award criteria and evaluation method should be designed in such a way that both "compliant" and "variant" offers can be evaluated according to the same criteria. In these cases, the award criteria must be carefully reviewed in the procurement planning phase to ensure that it allows for a fair, open, and transparent evaluation. In extreme cases, if not, it may lead to the cancellation of the tender or the call for a new one.

Accepting variants in technical specifications is a complex task that will require appropriate technical expertise during the evaluation of tenders. The admission of variants should be addressed and agreed upon as soon as possible before announcing the contracting procedure (Hebly, 2008, ss. 849-851).

Use of standards or labels

The use of standards, labels, or certificates in the field of public procurement is a general practice since these are objective and measurable and allow contracting authorities to carry out practical and reliable verification of compliance with specific minimum requirements by bidders. The contracting authorities may refer to commonly known standards or labels in the procurement documents to guarantee that the product or service complies with the specific quality or sector standards.

The standards or labels used in procurement procedures generally refer to quality assurance, environmental certification, eco-labels, and environmental management systems, as well as social requirements such as accessibility for persons with disabilities or equality of genre. Contracting authorities should only refer to standards that have been drawn up by independent bodies, if possible, at European or international level, such as the environmental management and audit system (EMAS) or certificates of the International Organization for Standardization (ISO). If it is decided to mention a national or regional certificate, the contracting authorities must accept equivalent certificates from the other Member States or any other evidence proving compliance with the requirement (Swedish Standards Institute (SIS), 2018).

Defining the criteria

The contracting authorities must define in the contracting specifications the criteria applied to choose the best offer. These criteria must be made public clearly and transparently (OECD-SIGMA, 2016, ss. 2-9 Brief 9). To choose the winner, three types of criteria:

- the reasons for exclusion are the circumstances in which the economic operator must be excluded from the contracting procedure.
- The selection criteria determine the suitability of the bidders to execute the contract.
- The award criteria determine that the tenderer has developed the most economically advantageous proposal that offers the expected results and, therefore, must be the winner of the contract.

Reasons for exclusion

The contracting authorities must exclude from the contracting procedure all economic operators who break or have broken the law, or who have demonstrated reprehensible professional conduct. National legislation defines a series of reasons for the exclusion that is mandatory or that are left to the discretion of the contracting authorities, depending on the national transposition of the relevant EU Directives. In cases of joint tender in which several economic operators form a consortium to submit a joint tender, the reasons for exclusion apply to all tenderers (OECD-SIGMA, 2016, ss. 7-11 Brief 16).

All contracting authorities must apply the mandatory grounds for exclusion. Economic operators who were convicted of one or some of the following crimes should be excluded from all recruitment procedures: Participation in a criminal organization, corruption, fraud, terrorist offense or crime linked to activities, money laundering, or financing, child labor or trafficking humans. Likewise, economic operators who have breached their obligations regarding the payment of taxes or social security contributions in their Member State will be excluded from any contracting procedure. Exceptionally, the contracting authorities may establish an exception to this rule when the amounts due for taxes or social security contributions are reduced. Also, when the economic operator has been informed of the breach of its obligations so late that it was not possible to settle the amounts due on time (Directive 2014/24/EU Art. 69 (3), Art. 55 (2) b) and Art. 84).

Contracting authorities are recommended to exclude economic operators[7] from participating in a recruitment procedure are in any of the following situations (i.e., discretionary grounds for exclusion depending on the Member State): violation of the environmental, social, and labor legislation. Bankruptcy or subject to insolvency proceedings, severe professional misconduct affects the economical integrity of the operator. Distortion of competition, for example, by collusion with other bidders or derived from the prior participation of an economic operator in the groundwork of the procedure contracting. Conflict of interest that cannot be resolute by less restrictive means than exclusion. Weighty lacks in the performance of the previous public contract. Misrepresentation by provides the information required to verify the absence of reasons for exclusion. Attempt to influence the decision-making process of the contracting authority improperly and obtain confidential information that may confer undue advantage on the contracting procedure. Negligently give misleading information that may have a significant influence on decisions regarding exclusion, selection, or the award (Article 84 of the Utilities Dir 24 contains identical provisions to those of the Directive on abnormally low tenders).

For contracting authorities to assess the absence of reasons for exclusion correctly, it is essential to have access to updated information, either through the national databases of other administrations or through the documentation provided by the tenderers. It is especially important in cases where financial difficulties affect the suitability of an economic operator or due to a pending debt for taxes or social security contributions.

Selection criteria

The selection consists of determining which economic operators are qualified to execute the contract. The selection criteria are intended to identify candidates or tenderers who can execute the contract and deliver the expected results. To be chosen, economic operators must demonstrate that the contract can be executed thanks to Authorization to exercise professional activity, economic and financial solvency, and technical and professional capacity.

Selection criteria evaluation

The methodology used to select bidders depends on the nature and complexity of the contracting procedure. The methodology must allow the contracting authority to

[7] Requirements depending on the national transposition of the relevant EU Directives.

determine objectively and transparently, in which bidders can execute the contract. Selection criteria can be evaluated by:

- A question that can be answered with a mention "pass or fail."
- The weighting system for criteria.
- Evaluation methodology for complex contracts.

If necessary, a numerical scoring methodology can also be used to help contracting authorities classify and pre-select bidders. In restricted procedures, after eliminating bidders who do not meet the minimum selection criteria, a numerical score should be assigned. Reduce the number of candidates to pre-select is necessary. In these cases, the contracting authorities must establish, in the tender notice or in the invitation to confirm the interest. When scoring candidates, the decision must always be accompanied by comments to explain the results in the future. As with many aspects of procurement, the selection criteria and methodology for selecting bidders must be transparent and stated in the procurement documents.

Award criteria

Award criteria shall (Art 67 Dir 24/Art 82 Dir 25). After the selection of the tenderers for whom the absence of reasons for exclusion is verified and who meet the selection criteria, the contracting authorities must choose the best offer based on the award criteria. As with the choice criteria, the award criteria must be established in advance, published in the procurement documents, and not undermine fair competition. Contracting authorities should base the award of the contract on the most economically advantageous tender (Directive 2014/24/EU, 2014). The application of this criterion can only be carried out through three different approaches, all of which integrate an economic element: The only price, cost only - a cost-effectiveness approach, such as life cycle costing and best value for money.

Contracting authorities have the freedom to choose one of these three methods, except in cases of competitive dialogue or association for innovation, where the criterion based on the best value for money must be applied (Directive 2014/25/EU). The price-based approach can also take the form of a fixed price based on which economic operators compete solely based on the criteria of quality. The method designated for award criteria needs to be indicated in the tender notice. If the best value for money approach is used,

in the tender notice or the procurement documents (e.g., in the technical specifications)—the detailed award criteria and their weighting by using a scoring matrix or transparent assessment methodology.

Single price or the lowest price

The price-only approach means that the price is the sole factor to consider when choosing the best deal. The contract is awarded to the offer with the lowest price. In this option, no-cost analysis is performed, and quality aspects are not considered. The use of the criterion-based only on the price can be useful in the following cases:

- For works in which designs are made by the contracting authority or for works with a pre-existing design, it is common to use the lowest price criterion.
- For pure, standardized, and available supplies (such as stationery), the price might be the relevant factor on which the contract award decision is grounded.

For some standard services (such as building cleaning services or editing services), a contracting authority may prefer to specify in detail the exact requirements of the specification and then select the offer that meets all the requirements and offers the lowest price (Comission, 2018). It should be noted while the application of the price-only criterion is still supported. It may be useful for simple procurement, and contracting authorities may decide to limit the use of this criterion because it may not help to obtain the best value for money.

Profitability, life cycle cost calculation

With the cost-effectiveness approach, the successful bidder is the one that offers the lowest total price, considering all the costs of supplies, works, or services throughout their life cycle (Comission, 2018). Life cycle costs cover all costs incurred by the contracting authority, both extraordinary and recurring costs, such as:

- Acquisition-related costs (e.g., purchase, installation, initial training).
- The operational costs as can be, e.g., energy, consumables, maintenance.
- The end of life costs - (e.g., recycling and disposal).
- Environmental impacts as is polluting emissions.

The contracting authorities must specify in the procurement documents the method will use to assess the life cycle costs and must indicate indeed what data will be need from the bidders to do so.

Best value for money

The purpose of the best value for money approach is to identify the offer with the best value for money. It must be evaluated based on criteria linked to the object of the public contract in question. These criteria can cover qualitative, environmental, or social aspects. The best value for money approach is considered appropriate in cases such as:

- The works designed by the tenderer.
- Supplies require specialized product installation or maintenance activities or user training. For this type of contract, quality is usually of importance.
- Services associated with intellectual activity, such as consulting services in which quality is essential. Experience has shown that when providing these types of services, applying the best value for money approach offers the best results.

Establishing the award criteria for a complex contract requires considerable technical competence and, therefore, the contracting authorities may have to use internal or external experts. Technical advisers may also be used as non-voting members of evaluation committees that do not have any conflict of interest with potential bidders. Since the award criteria must be specific to each procurement procedure and closely related to the object of the contract, generic award criteria should not be drafted (European Parliament E., 2013). However, to assist public procurement professionals, common mistakes can be identified that should be avoided, and some examples of good and bad practice in the design of award criteria can be cited.

Setting deadlines

In this phase of the process, the contracting authority must establish the period elapsed between the publication of the contracting procedure and the deadline set for submitting offers or requests for participation by economic operators.

Contracting authorities may grant economic operators time to prepare their proposals, considering the magnitude and complexity of the contract. In practice, contracting authorities often experience significant time constraints and tight internal deadlines.

Therefore, it usually applies the minimum terms allowed in the legislation. Furthermore, contracting authorities can use accelerated procedures to streamline the contracting process in exceptional cases.

For minimal ties, as explained above, the choice of procedure must be made and justified in the planning phase. The contracting authorities must abide by the minimum deadlines set out in Directive 2014/24/EU for each type of procedure. It should be well-known that the publication of a prior information notice combined with the possibility for economic operators to submit their offers electronically substantially reduces the minimum terms.

Contract announcement

The tender notice consists of publicizing the contracting procedure so that all interested economic operators could take part and present a proposal (either a request to participate or an offer). The publication is one of the essential elements of public procurement, as it guarantees transparency, equal treatment, and competition among economic operators in the single market.

Advertising helps promote transparency and fight corruption because it ensures that both economic operators with civil society, counting with the media, as well as the public, are alert of the opportunities for public contracts available and contracts already awarded. Advertising also enables contracting authorities to inform as many potential economic operators as possible about business opportunities in the public sector. Furthermore, thus enables these operators to compete, which in turn offers contracting authorities the possibility to get the best value for money (Ministry of Economic Affairs and Employment of Finland, 2020).

Contractual implementation

The award of the contract, becoming a successful bidder, make the contractor responsible for the execution of the contract by delivering the supplies, works or rendering the services to the contracting authority, following the provisions of the same. The objective phase for the procurement procedure ensures that the contract is executed satisfactorily. Moreover, both the contractor and the contracting authority comply with the obligations. Public contracts are generally multi-stakeholder, run over long periods, and require substantial resources (European Commission, 2020). In that context, complicated situations, unforeseen circumstances, and delays can arise. For this reason,

it is essential that contracting authorities to invest time and resources to manage and control contracts properly.

2.12 Management of the relationship with the contractor

It is beneficial to all parties that the contractor and the contracting authority create and maintain an open and constructive relationship during the performance of the contract. Regular and fluent communication will allow the exchange of knowledge, shared understanding, and a higher capacity to foresee possible problems or risks. It is in the interest of the contracting authority that the relationship works well, as the costs of premature termination, the consequences of poor performance or unforeseen changes in the economic operator are highly damaging (OECD/SIGMA, 2011, ss. 3-4).

Establish and maintain a good relationship, and contracting authorities should organize regular meetings, especially at the beginning of the contract performance. An initial meeting will always be held at the beginning of the contract. It must be a face-to-face meeting with the prominent participants in the contract, both from the contractor and from the contracting authority. This meeting has a dual purpose, such as getting to know each other and clearly defining the prominent roles and responsibilities. It must lay the foundations for a common understanding of the context and objectives of the contract, as well as the means proposed to achieve them and, ultimately, satisfy the needs of the contracting authority (OECD/SIGMA, 2011). During implementation, channels should be established to maintain regular communication and exchange of observations and review meetings should be held to develop mutual trust and understanding and agree on a common approach to meet the objectives of the contract.

2.13 Contract management

The acquisition management process is not complete once the contract is signed. The buyer has the responsibility to ensure that the product or service will be delivered following the contract requirements. The contract management process is responsible for ensuring that the supplier will comply with contractual performance requirements and that the acquirer will act under the terms of the contract. The process also reviews and documents what is or has been the supplier performance based on the contract and the corrective actions established. Besides, performance is documented as a basis for future

supplier relationships. However, contract management is not only the process that allows the parties to a contract to fulfill their obligations in order to obtain the objectives required in the contract. It also involves building a good working relationship between the buyer and the supplier. This relationship continues throughout the life cycle of the contract.

During the execution of the contract, proactive management is necessary to anticipate future needs, as well as react to unforeseen situations that may appear. The objective of contract management is to obtain the contractually agreed services and obtain value for the money invested. Requires optimizing the efficiency, effectiveness, and economy of the service or relationship established in the contract, balancing costs with risks, and correctly managing the buyer-supplier relationship. Contract management also involves the search for continuous improvement throughout the development of the contract (PMI, 2000, ss. 96-99).

Proper contract management goes far beyond ensuring that the contractual terms are being met. It is a fundamental step, but just one of many that need to be done. No matter the scope of the contract, there will always be tensions between the different perspectives of the buyer and the supplier. Contract management encompasses the resolution of these tensions in order to build relationships with the provider based on trust and mutual understanding, to guarantee benefits for both parties, that is, a relationship in which both sides benefit (PMI, 2000, ss. 290-297).

2.13.1 Risk management

Complexity in the procurement procedures are time-consuming and labor-intensive and may require the participation of large numbers of contracting authority employees, as well as external stakeholders. In this context, the combination of many different factors and influences generates a series of risks that must be adequately identified, evaluated, mitigated, and monitored during execution.

Significant errors are not due to poorly conducted risk analysis exercises. The most common errors occur when these exercises are not performed. Recruitment professionals do not need to have specific skills to carry out risk analysis and contingency planning (PMBOK Guide 6th Edition, 2016, ss. 400-408). It will be sufficient to have adequate knowledge of the context of the contracting procedure and a standardized methodology.

Contracting authorities that carry out complex contracting procedures should ensure that a risk register and associated contingency plan is developed during the early phases of the contracting life cycle and that these are regularly updated in critical phases of the execution of the contract. Proper risk management helps to achieve planned objectives, reduces the probability of aborting processes, the need to modify contracts during their execution, and the risk of making financial corrections in the context of projects financed with EU funds. When conducting an initial risk assessment all through the procurement preparation and planning phase, the CA should:

- Recognize and measure the main risks related to the contracting process.
- Identify the source of the risk.
- Assign responsibilities for risk assessment and periodic review and supervision. Contracting authorities can use the "risk register" tool or risk matrix that helps to list risks, assess probability and severity, and define appropriate mitigation measures and those responsible.

Contracting authorities must identify possible risks by identifying problems and obstacles to the correct execution of the contract to fill out and use the risk registration tool. For example, personnel changes can be from the contracting authority or the contractor to a poor-quality result of an unforeseen conflict of interest. Many risks entail that the contractor cannot perform the contract and cannot perform it with the appropriate quality level (PMBOK Guide 6th Edition, 2016, ss. 409-418). Among these, the following could be highlighted:

- Lack of capacity
- The transfer of key personnel to another location
- The contractor's activity is oriented to other areas after the award of the contract, thus reducing the added value for the contracting authority
- The contractor's financial situation deteriorates after the award of the contract, ultimately damaging its ability to maintain agreed service levels
- The problem in the contractor suppliers’ chains
- Identify the cause of the risk, which can be internal (linked to the contracting authority) or external.

- External risks may arise from the contractor, but also other factors beyond the control of the parties (e.g., excessive socio-economic changes, natural disasters).
- Evaluate the consequences and the repercussion on the contracting authority if the identified risks materialize and catalog those risks (high, medium, or low).
- Evaluate the probability of the risks materializing and catalog those risks (high/medium/low).
- Define mitigation measures to reduce risk-taking into account the cost/benefit ratio.
- Detect who is best placed to reduce, control, and manage risk.

During the contract term, the contract manager should regularly monitor risks and highlight any emerging issues quickly. A solution that can also help detect and monitor risks is to establish "phase reviews" during the hiring process. Phase reviews are a mechanism to review hiring procedures at crucial points in the development before making important decisions. Its use comes from various exercises to analyze experiences based on the question; how did it happen? Concerning public contracts that had gone wrong for various reasons, leading to high costs, delays in deadlines, or failure to achieve the expected results.

Phase reviews are intended to ensure that procurement is sound, well planned, and engages all stakeholders to meet objectives. It should only apply to complex, strategically essential, or high-risk contracts (PMBOK Guide 6th Edition, 2016, ss. 419-436).

2.13.2 Documentation and record-keeping

Documenting the entire contracting procedure and justifying all critical decisions are prerequisites to ensure that the process can be verified or audited afterward. Information recording systems can be manual or electronic, or a combination of both, but there is a trend towards fully electronic processing and storage (PMI, 2000, ss. 282-283).

The contracting authorities must keep and archive the documents related to all the phases of the procedure, such as planning, the preparation of the tender documents; advertising; selection and evaluation; the award; the execution, and closure. If related, this also includes all communications with commercial operators, such as market

inquiries, requests for clarification from bidders, and dialogues or negotiations (PMI, 2000, s. 294).

Documentation must be kept for at least three years from the date of contract award. In the context of the European Structural and Investment Funds (ESIs), it is essential to retain a full audit trail to demonstrate the eligibility of expenditure and to retain it following the deadlines set out in the specific rules of the fund (European Commission, 2014).

2.14 Deal of the contract modifications

Thanks to proper planning, complete and robust tender documents, and a well-designed contract by a diligent contracting authority, the need to make contract modifications or sign other contracts for additional works, supplies or services during the phase will be minimized of execution.

As a wide-ranging rule, if a contracting authority wishes to purchase additional works, supplies or services during the performance of a contract, such complementary tasks should be put out to tender under national and EU public procurement law. However, in particular cases, modification of contracts is allowed during the period of validity as an exception to the general rule due to specific circumstances because it represents a small part of the total value of the contract (OECD-SIGMA, 2016). Accordingly, this exception should only be used in exceptional circumstances and must be justified. The burden of proof of the circumstances that allow recourse to this exception falls on the contracting authority.

Each contracting authority must carefully study the clauses of its contract and the pertinent circumstances that generate the need for modification. In practice, however, it is quite tricky for contracting authorities to determine whether it can have recourse to provisions relating to contract modifications during the period of validity. The best option is to consider all possible changes and include those in the tender documents. It is not always possible for every modification, but much attention must be paid during the preparation phase to try to identify all cases. There are other rules for unforeseen or practically unpredictable situations.

Contracting authorities should mainly check the value of the modification compared to the initial value of the contract. Modification of less than 10% is allowed for services and supplies, 15% for works, and below the EU thresholds (EU thresholds for public contracts

from 1 January 2016 to 31 December 2017). However, individual awareness must be paid to ensure that such "low value" does not alter the general nature of the contract.

2.15 Claims and appeals

Economic operators can take legal action to demand respect for their rights under European or national public procurement guidelines in cases where contracting authorities, either intentionally or involuntarily, fail to comply with the legal framework for the procurement public (OECD/SIGMA, 2016, ss. 3-7).

The remedies are regulated by various EU Directives (Directive 89/665/CEE) (Directive 92/13/EEC) (Directive 2007/66/EC) and allow the suspension of any decision taken by a contracting authority, by annulling illegal decisions, including the contract itself, and the granting of compensation for damages to contractors. Furthermore, failure to comply with the Remedy Procedures Directive could be detrimental to future EU subsidies to the contracting authority or could lead to claims for already awarded funds.

Furthermore, non-compliance with public procurement rules may have financial consequences for the contracting authority, but also for its employees, who may be personally liable in some legal systems. If necessary, contracting authorities can request legal advice on the treatment of a claim through their respective national public procurement authorities.

2.16 Termination of a contract during its period of validity

Contracting authorities may well have to terminate a contract during its term if it is found that it is in breach of national or EU law. In the legal framework for public procurement in the EU, contracting authorities can terminate a contract during its execution for one of the following reasons:

- The contract has undergone a substantial modification, which would have required a new contracting procedure.
- The contractor should have been omitted from the contracting procedure because of one of the exclusion reasons established in the contracting specifications or the national legislation applied.

- The contract should not be awarded to the contractor given the existence of a severe breach of the commitments set out in the Treaties and Directive 2014/24/EU and declared by the CJEU in a procedure under Article 258 of TFEU.

Furthermore, as in any contractual relationship, contracts can also be terminated if the contractor manifestly fails to fulfill his obligations. In all cases, the provisions governing the termination of the contract must be determined in advance in the public contract using specific provisions.

2.17 Contract closing

Once the contracting authority has formally accepted the works, supplies, or final services and has paid the corresponding invoices, the public contract can be closed. After the execution of the contract, some economic operators may ask the contracting authority to issue a certificate of satisfactory performance and to fill out a satisfaction survey or questionnaire to collect comments and recommendations on the work carried out.

Likewise, the contracting authority must draw some conclusions and identify critical contributions of the work carried out that can be recorded in the contract file. For example, the contract manager may respond briefly to the following questions: Is everything lost? Can the necessary be had? Is it for real? Are there differences between those two aspects? If yes, can these differences be explained? Are there differences between those two aspects? Have conclusions been drawn (positive or negative) for future contracts or projects? (PMI, 2000, ss. 295-297)

For larger contracts, the contract manager can arrange a closing meeting with key stakeholders to evaluate the performance of the contract against the original expectations. This meeting should be an opportunity to: Communicate the results of the implementation of all the stakeholders involved. Recognize the participation of all those who contributed to the success of the project. Expressing gratitude and thanks to all of them will help them to mobilize in the future. Learn from errors, apparent problems, or materialized risks, and analyze how these problems could have been avoided or minimized and draw conclusions and recommendations for future contracts.

3 VIABILITY OF EPC CONTRACTS FOR THE PROVISION OF MARINE AND OFFSHORE INFRASTRUCTURES

3.1 Introduction

The construction of marine infrastructure triggers a series of impacts, which can be positive and negative. A new infrastructure modifies the space where economic activities and ways of life are carried out; consequently, it also affects the life framework and habits of the affected society. With this, a transformation process begins that is always irreversible. It is convenient to define a series of previous basic concepts such as Project, Risk, and Contract. David I. Cleland and Harold Kerzner define a project as "a combination of human and non-human resources brought simultaneously in a temporary organization to achieve a specific purpose (Cleland, 1985, s. 199)." This definition emphasizes the three fundamental characteristics of any project: the combination of resources, temporal organization, and fulfillment of predetermined objectives.

Risk is an ambiguous concept that can be understood as the uncertainty in obtaining an inevitable result in the different activities carried out. A large number of participants, the processes involved, the environmental problems, those of management and administration, give rise to the risk, which must be shared by clients, governments, builders, suppliers of goods and services, and by the financial sector. The degrees of risk differ substantially depending on the nature and characteristics of each project (PMBOK Guide 6th Edition, 2016). The design and construction contract must include the agreements reached regarding the responsibility of each party for the risks inherent in the project, during its term. The contractual structure of large infrastructure projects must also include ownership of works, financing, and construction.

The construction contract must include agreements reached regarding risk responsibility of each party inherent in the project, during the term of the project (Michael Sergeant, 2014, ss. 4-7). The contractual structure of large infrastructure projects must also include ownership of works, financing, and construction.

In the construction market for large international projects, the classical method has been replaced by the "turnkey" method. The classic method, also called traditional, of

execution of works, is based on a tripartite relationship (client, engineering, builder), a project supplied by the client, and in price per unit of measure. The turnkey contract (turnkey), or EPC Contract, is characterized by the unique client-contractor relationship and the lump-sum price. EPC is the acronym for Engineering, Procurement, and Construction, making explicit reference to everything included in the contract: the design, the necessary supplies, and the construction. It will also include several additional services necessary to accomplish those three main design, supply, and construction objectives. With this type of construction modality, the traditional tripartite relationship between the client (contractor), engineer, and contractor disappears. It is replaced by a single relationship between client-contractor, in which the latter, together with its traditional functions related to the supply of equipment, construction, and commissioning, assumes project engineering (Telford, 2007, ss. 183-184).

The "turnkey" contract or EPC is one in which the contractor agrees to the client or contractor, in exchange for a generally fixed price, to design, build and put into operation a specific installation that has previously planned. The emphasis must be placed on the overall responsibility assumed by the contractor towards the client. The winner of a turnkey contract acquires the term and budget commitment and assumes the risks of engineering, construction, purchase of materials and machinery, assembly of equipment, and commissioning of the planned work. It is possible to include in this type of contract other obligations after the execution of the work, such as the training of personnel and technical assistance (FIDIC, 2017).

In the field of industrial development, the turnkey contract is nowadays shaped as a mechanism that enhances an investment in production equipment and provides legal security to economic operators. In any case, it is not such a new reality. Turnkey contracts originated in the United States of America at the dawn of the twentieth century precisely in the production of capital goods, although its practice later extended to the construction sector and particularly in the oil sector, but also as a means of investment in developing countries (Schneider, 1986, s. 338). It is because these contracts give the purchaser, in principle, autonomy in the management of the facilities and acquisition of necessary technology for the development of the industrial activity.

In this way, the entrepreneur accesses complete projects through which he introduces industrial procedures for the transformation of raw materials. Nevertheless, also, outside this scope, the use of turnkey contracts allows to include in the contractual object those projects concerning which the client or entrepreneur lacks the experience, generally

technological, necessary for its development and execution. Furthermore, even when the client or entrepreneur has sufficient human resources within their organization, these often lack the necessary knowledge for the proper use of the equipment (FIDIC, 2017, s. §4.1). The turnkey contract implies specialization of the contractor, as the obligation of the latter to deliver a finished product. For this, it assumes a global obligation to carry out all the necessary services, including those that are auxiliary or complementary to the work to be carried out. The preceding, in most cases, can have the effect that tenders tend to be highly complex, so there is a tendency for forms of contractor choice (FIDIC, 2017, s. §4.2).

In contrast, traditional contracting requires more agents to intervene, and there are more intermediate steps in the entire process, thus multiplying the risks, especially those of the deadline and the budget (Schneider, 1986, ss. 345-356). Turnkey contracts appear in the legal field as a new negotiated technique that arises from the industrial field. It integrates a series of legal relationships such as contracts for process and transfer of technology, engineering services, construction of civil works, purchase of equipment, materials, transportation, mechanical and electrical assemblies, technical assistance, among others.

3.2 The role of Public Administration

The investment role of Public Administrations is fundamental in the development of the country. Because of the investment made by the public sector, essential infrastructures have been developed that suppose a supply of public services that allow and favor private activities. Besides, public investment also plays a vital role in the economic cycle since it can be used as a stabilization mechanism that compensates for possible falls in private investment.

The end of the European structural funds in 2007 coincided with the last global economic crisis, which inevitably affected the construction sector in the EU in a very negative way. After the restoration, countries of the union have established great public investment plans to reactivate their economies. Marine suppliers within the single European market deliver materials, systems, equipment. It acts as a provider of engineering and consulting services or is integrated as subcontractors in pre-product manufacturing and assembly. The shipbuilding industry offers a wide range of supplies for more than 20 different types of ships of a broad spectrum of sizes, from small research ships through large cargo and

container ships to giant cruise ships with more than 500,000 m³ in volume. It also includes all marine and offshore systems (European Commission, 2014). The industry provides equipment and services ranging from a single screw to the world's most massive motors—works from simple cleaning to highly sophisticated scientific engineering.

The limited statistical data available has been able to determine the primary economic data of the industry as an average during the period 2013-2017. The total annual market volume estimated for marine supplies in the period was suggested to 135,2 billion USD (102 billion EUR). The average annual world demand for the marine supplies market out of the shipbuilding was around 50,4 billion USD (European Commission SI2.630862, 2014). China and Korea are the largest markets, followed by Japan, the United States, Singapore, Norway, Italy, India, Germany, and Brazil. The single European market (EU-28) and its marine supply industry hit the world market with an average production value of € 52.5 billion. About 33% was exported, and the production value, including Norway and Turkey, was € 61.8 billion. The top five producing countries for marine supplies in the single market are Germany, the United Kingdom, Italy, the Netherlands, and France, with 75% of the total production of marine supplies (Denmark and Finland as additional major exporting countries for marine supplies) (European Commission, 2014).

The turnkey construction contract aims to carry out marine technology works (Oil platforms, shipyards, wind farms, bridges over the sea, naval defense technology, underwater technology, etcetera.), civil engineering, building, or industrial plants. It is justified in the development of complex projects that require a global manager, with multidisciplinary expert teams, capable of developing engineering and construction in parallel, of meeting technical, quality, deadline, and budget objectives. There is no recognized definition for turnkey contracts. It only understood that contracts were created in commercial practice because of the needs of the clients or the property. Furthermore, these are permanently linked to the object of the transaction. Both in Anglo-Saxon countries (common law) and civil law countries (including in this Nordic law which does not have a unified civil code), define that turnkey contracts are those that the contractor is obliged to deliver a complete product to be used. There is nothing in this definition that differentiates them from the rest of the design and construction contracts. The objective of this contract is to deliver the final work for it was conceived.

3.3 Types of Contracts within the single market

Within the European Union, the current legislation includes the following types: Public works contracts, public service contracts (Directive 2014/23/EU, 2014). Public supply contracts and concession contracts (European Commission, 2016).

The most used international contracts in the construction sector are:

1. Traditional contract (design then bid), involves the participation of three parties: client, engineering, and contractor.
2. Fast track construction, which allows construction work to begin before the project, has been drawn up.
3. "Project management," which involves participation in the process of a quarter, which assumes the usual functions of the other three.
4. "Design & build," turnkey, product in hand, and market in hand, which means in that order a progressive expansion of the obligations assumed by the contractor. It always includes those related to project preparation and construction.
5. BOT (Build-Operate and Transfer) and BOOT (Build-Own-Operate and Transfer) contracts are different mechanisms used to finance projects.
6. Engineering contracts represent a commitment to the development, direction, and supervision of a project, being able to include its construction if this had been agreed upon previously.
7. “Engineering, Procurement, and Construction Management” (EPCM) contracts that provide engineering services, purchasing management, and construction management.
8. Open Book Estimation Contracts (OBE), for carrying out reimbursable work with shared responsibility between client and contractor. Facilitates external financing as it is EPC (Engineering, Procurement, Construction) and can be converted into a turnkey contract.

The use of the project and work contract modality, according to the Hanscomb Means Report (2004), indicating in percentage terms the use made by the private and public sectors in France, Great Britain, Spain, USA, Australia, and China. The report reflects

the upward trend in the use of the project/works contract by the public sector in Great Britain, USA, and China, remaining at the levels indicated in France and Spain and downwards in Australia (Hanscomb, 2004).

3.4 The EPC contracts

Contracts are created in business practice as consequences of the clients' needs, and those are linked to the transaction object. Different authors have explained it, highlighting its most important characteristics. For Nigel J. Smith (2002), the turnkey contract is “the simplest type of contract, in which a single contractor is responsible for carrying out all the work necessary to complete the project. , from the initial stages to the delivery of the final work to the client ”. Regarding the payment, it says that it is made based on a flat-rate or also reimbursable contract, divided between the stages of the project (Smith, 2002, s. 188).

Roy Morledge (2002) defines it, highlighting that "*a single contractor assumes the risk and responsibility for the design and construction of the project in exchange for a lump-sum payment*." Additionally, it points out that it is a “fast-track” system, in which construction can be carried out before the design has been completed. By transferring the risk to the contractor, he tells us, the client loses control over the project, so any requirement that is not specified in the contractual documents will constitute a variation to the contract. Its cost will be added to the amount thereof (Kelly, 2002, ss. 191,193). It is observed that the authors agree in the definitions that the turnkey contract always encompasses the obligations derived from a project and work contract and supposes the assumption of global responsibility by the contractor. Allows construction to begin before completing the design and forces the contractor to deliver an “as-built” project upon completion of construction.

As a result, the turnkey contract has proven effective in reducing the project execution period. The fact of assuming the conception and execution of the work conditions the contract award procedure, generally, a restricted or negotiated procedure, and the role of the customer. Because the award of the contract is made with a design developed at the tender project level, the contractor is generally selected based on having submitted the best offer, combining the technical proposal and the price. These projects are frequently awarded at a lump sum, although it can also be, guaranteeing a maximum price. In the selection of this type of contract, the technology to be developed in the

project may have a decisive influence and may involve the transfer or sale of industrial property rights.

The reason for the evolution and success of the turnkey contract is the consequence of the competitive improvements it offers compared to other contractual formulas such as the sole contractor. The responsibility is general of the contractor. There may be a unique dialogue between the customer and the contractor and can get the lump-sum price. The speed of project execution is carried out by the same contractor. Change orders are eliminated or minimized, along with the advantage of these projects, which is the transfer of technology and technological developments. In summary, the turnkey contract assumes the overall responsibility of the contractor towards the client and gives legal unity to a complex economic operation.

3.5 Legal Framework

The European Union Directives are legislative acts in which an objective is established that all EU countries must meet. Directives 2014/23/EU on the award of concession contracts, 2014/24/EU on public procurement and 2014/25/EU on procurement by entities operating in the water, energy, transport, and Postal services had the deadline for their transposition on April 18, 2016.

It has been previously stated that the European Directives include the types of public works, services, supply, and concession contracts. The current national legislations of the members of the union neither the European Directives, 2014/24/EU, 2014/23/EU, and 2014/25/EU, no mention is made of the turnkey contract. However, it is a fact that turnkey contracting in the EU is used especially between individuals. Consulting the jurisprudence related to these contracts in different judicial instances, including those of the Supreme Court, the use of the Civil Code is observed as the basis of the regulatory framework used to settle the differences between the contracting parties.

The simple fact that the Member States have not given the Union specific competence to issue regulations or directives in the field of contract law does not mean that such legislation is "*ultra vires.*" It is happening within the internal market, and contract law provides the legal framework for economic dealings, such as the sale of goods and the provision of services. In this way, the implicitness of contract law in the competence of the EU is present to harmonize the laws of the Member States, as long as their

divergence interferes with the proper functioning of the internal market (Article 114 TFEU). Furthermore, since the Maastricht Treaty, the EU enjoys an independent mandate to protect consumers (Article 169 TFEU), and this protection is carried out by harmonizing laws affecting the internal market (Article 169, paragraph 2, letter a), together with article 114, paragraphs 1 and 3, TFEU).

The Court of Justice has, on several occasions, issued a mandate to harmonize laws to ensure the proper functioning of the internal market. It has not given carte blanche to harmonize the laws it wishes to the EU legislator. The Union lacks the competence to legislate in the internal market. The disparities that exist in themselves between national legal systems are not sufficient to justify harmonization measures. Legal differences have constituted a legal obstacle for the EU that it must positively aspire to eliminate.[8]

Different cultures, traditions, as well as political and ideological choices made within European national states, always represent an interference with national legal systems in trying to harmonize contract law. By harmonizing private law based on Article 114 TFEU, the EU legislator must demonstrate the divergence between national laws. It should verify that such divergence hinders the proper functioning of cross-border economic exchange and that by harmonizing these rules, it will effectively improve such exchanges.

Critics in this area argue that the lack of empirical evidence and the preamble to EU legal acts do not pay sufficient attention to this requirement (Collins, 2013, ss. 907-922). Furthermore, wanting to activate the competition stipulated in Article 114 of the TFEU, it must be demonstrated that the rules of private law affect the field of free movement and have hindered entry into a market. In concluding the analysis of the jurisprudence on Article 114 TFEU, J. W. Rutgers notes that: "*Private law rules do not, in general, constitute an obstacle to the internal market, but only in specific areas can there be an obstacle to trade. Only in those cases, the European Union has the power to adopt harmonization measures*."

The category of "Shared Competence" is within the competence of the EU to harmonize national laws that affect the internal market; therefore, it is distributed between the Member States and the Union (Article 4 TFEU). Shared competencies are exercised

[8] Many cases can be analyzed regarding this topic. To refer to what was analyzed and written in the referred paragraph, the following are cited: Case C-376/98 Germany v Parliament and Council (Tobacco Advertising I), ECLI: EU: C: 2000: 544, paragraph 84; Case C-380/03 Germany v Parliament and Council (Tobacco Advertising II), ECLI: EU: C: 2006: 772, paragraph 41, 80.

both in the EU and at the national level as opposed to exclusive competences. However, Member States cannot issue its legislation in that specific area (Article 2 (2) TFEU) to the extent that the EU has exercised its competence. This exemption is in the case of national rules that apply an EU directive. Conversely, if the EU repeals its legislation, the power of the Member States to freely legislate in this area will be restored (Article 2 (2) sentence 2 TFEU).

Mixed contracts falling within the scope of EU Directives

The turnkey contract constitutes, in effect, a contract with mixed or complex content, (or a juxtaposition of linked contracts, as configured by the parties) that participates in different contractual types regulated by the national law of the members of the union. Legislation has been transferred by the directives, as mentioned. Alternatively, accepted by custom and jurisprudence, with features close to the works contract, and more specifically, to the project and work contract, regulated by the same directives.

Furthermore, Directive 2014/24/EU establishes that the contracting authority must determine whether the object of the contract constitutes works, supply, or services contract. This aspect will accurately determine what thresholds should be considered when applying EU law. This analysis concludes that a concession contract is appropriate. It is also possible to combine works, supplies, and services in mixed contracts in some cases. It established that in the case of mixed contracts that combine works, supplies or services in a single contract, the main object must be determined based on the element with the highest value or the part of the contract that is essential to meet the need. Specifically, the criteria that public buyers must apply to determine the type of contract are:

Figure 4. Mixed contracts that combine works, supplies, and services.

Situation	Criteria for determining the type of contract
Works and supplies	The main object of the contract
Works and services	The main object of the contract
Services and supplies	Maximum value
Services- services under the flexible regime	Maximum value

Source from the Directive 2014/24/EU.

In the case of mixed contracts for the acquisition of objects covered by Directive 2014/24/EU and for contracts not covered by that Directive, the applicable legal regime depends on whether the different parts of the contract can be objectively separated or not.

1. If the different parts can be separated, the contracting authority can choose to:

(a) Award independent contracts for each party.

(b) Award a single contract.

When the contracting authority elects to award separate contracts for independent parties, the decision on the law applicable to each of those independent contracts will be made based on the characteristics of each party. If the contracting authority decides otherwise to award a single contract, Directive 2014/24 / EU applies.

2. If it is not possible to separate each part, the applicable legislation must be determined based on the main object of said contract.

According to the author's reasoning for atypical contracts, the turnkey contract is not such an utterly atypical contract that it does not allow recourse to normative provisions already established concerning other contracts. Although it does not fit strictly into any of the figures with specific legal regulations, it consists of a combination of elements belonging to various typical contractual figures. Consequently, recourse must be had to the regulatory standards of the most similar typical contracts.

3.6 Evolution and current situation of EPC contracting

Military and Civil engineering was the oldest disciplines used by man to adapt to its environment. The active practice of civil engineering began with the formation of the first stable settlements. The oldest known testimonies are in Egypt and Mesopotamia, around 4000 B.C. In times past, states used their resources almost exclusively in works of strategic military interest. In recent history, states begin to build works with social interest when the bourgeoisie comes to power after the French revolution. Then the territory began to be studied to organize, supply, and communicate it.

From the end of the 18th century and throughout the 19th century, a series of profound transformations took place in the western world that laid the foundations of contemporary

society. It was the time of the liberal revolutions of the bourgeoisie and nationalism. The industrial revolution, born in England in the eighteenth century, consolidated in the nineteenth and spread to the continent, and with it, the capitalist economy prevailed. New means of transportation, such as the railroad or steamship, were developed, and the demographic revolution generated significant population growth. At the starting of the 19th century, two events promoted by Napoleon were of great importance. In 1804 it promulgated the Civil Code (code civil des Français), which regulated civil procedures and has since had enormous influence. In 1805 he founded the Polytechnic School in Paris, emerging the figure of the engineer in its civilian version, thus evolving from its military origin.

From the mid-nineteenth century, design and construction began to be more specialized, as technological advances allowed the construction of more complicated facilities and structures. This evolution led to the division of project execution responsibilities in design and construction. Architects and engineers became design professionals, while contractors became builders. Thus, the American Society of Civil Engineers and Architects was founded in 1852 to "promote the professional status of civil engineers and architects" which, later in 1869, evolved into what is now the "American Society of Civil Engineers" ASCE; afterward creating in 1857 the "American Institute of Architects," AIA. To deepen the divide between design and construction, the organization of Associated General Contractors of America (AGC) was established in 1918, "to promote the interest of the construction industry." In this way, specialization appears, with the incorporation of professional groups representing the individual interests of designers and builders.

This division between design and construction services was consolidated in 1900, when the United States federal government, one of the largest buyers of construction services, began to demand the use of a classification-based selection for contracting construction services. Architecture and engineering. In divergence to this, most government agencies were needed to award construction based on the lowest bid while design services were an outstanding service. The references of those who provided it were more important than the costs. The construction was relegated to the scope of an auction. The Association of European Independent Engineers (Fédération Internationale des Ingenieurs-Conseils FIDIC), was founded in 1913. In 1953 it began to draw up what are currently the Type-Contracts for the construction sector, most widely used in the world.

Following the evolution of contracting systems, Molenaar and Songer (1996) report that the first documented use of the design and build method by the public sector in the 20th

century in the United States was in 1968, in school districts across the Midwest. In 1969, Congress and the Secretary of Defense authorized the use of turnkey construction to offer military housing (Molenaar, 1996, ss. 47-53). With this decision, according to Cook and Smith (1984), the Department of Defense tried to take advantage of the knowledge of the builders to achieve shorter terms and lower costs. The success of this Department of Defence initiative led to the use by the government of alternative methods of contracting projects, especially projects and works. It was extended in the eighties and nineties. However, these projects were carried out under a special legal provision, since public sector award laws did not widely accept the project and work contract (Cook, 1984, s. 34). This growth in the United States public sector is well documented by McManamy (1994), Rosenbaum (1995), Yates (1995), and Tulacz (1996).

In Europe, the turnkey contract modality is used above all by private, mostly foreign clients, and for the construction of industrial projects. Project and construction contracting in the late 1990s have been used on occasions. However, European companies have accumulated a great deal of experience in recent years in this type of contract (in projects for water plants, motorways, airports, high-speed rail, etcetera) that have been carried out in many countries of the union.

3.7 Contracting services

EPC makes explicit reference to everything included in the contract, as are the design, the necessary supplies, and the construction. It will also include a series of additional services (Directive (EU) 2019/2161, 2019) (TFEU, 2012) necessary to achieve those three main objectives of design, supply, and construction:

- Both primary and detailed engineering is included in the scope of the contract. Only conceptual engineering is excluded, which sets the minimum specifications that the plant must meet. This conceptual engineering details both the significant characteristic parameters that the installation must meet (power, auxiliary consumption, fuel or water consumption, discharge parameters, parameters of gaseous emissions, electricity generation in a given period, availability minimum, reliability, etcetera.). In turn, some minor technical conditions that the owner imposes (inclusion of specific equipment, design or construction standards, materials that should and should not be used, etcetera.) that must be respected in carrying out the project.

- It can be obtaining some or all the necessary permits for the construction and commissioning of the facilities.
- The supply can be of part or all the necessary materials and machinery. Sometimes the customer reserves the direct purchase of certain strategic elements. However, it is more common for the end customer not to assume the responsibilities inherent in excluding the contractor from supplying those elements.
- Include the transportation of the equipment to the plant.
- To be carrying out the necessary civil works.
- Include the construction of the provisional works facilities, necessary to carry out the construction.
- The installation and assembly of all the equipment required.
- Include all the commissioning of the installation.
- It carries out the acceptance tests that the plant must pass to carry out what is called provisional delivery of the plant".
- Include a warranty period, ranging from 1 to 3 years from provisional delivery.
- Correspond the completion of all pending points that have been detected during construction. Include that have reached the moment of provisional delivery without being resolved. Usually, the client accepts the installation provisionally on condition that all those points detected as non-compliant are resolved.
- Encompasses the completion of the final plans, plans "as-built" of the plant, which reflects all the changes that may have occurred in the plant on the original designs.
- Include the realization of the operation and maintenance manuals of the plant.
- Must be complete training of the personnel who must operate the facilities.
- The contract includes the operation and maintenance of the plant during the warranty period, so that the contractor cannot attribute a malfunction to problems derived from operation and maintenance, which would generate a constant discussion with the contractor, and that in some cases would allow him to evade his responsibilities.

- Encompasses the solution to defects that appears during the warranty period, attributable to the equipment or its installation.
- Include the final signature delivery of the plant once the warranty period has elapsed, all pending points, and all warranty points have been resolved.
- In some cases, less and less, the operation and maintenance of the facilities over a long period. The intention is to avoid that the contractor has a short-term mentality. Since if the operation and maintenance contract have the correct scope, all the responsibilities derived from a malfunction for an extended period will be the responsibility of the contractor, regardless of whether it is a design, construction, operation, or maintenance problem.

3.8 Aspects to consider in the contract

The three essential characteristics of a turnkey contract are:

- Closed or raised price of the global good
- Design and construction are carried out by the same professional or company
- The work is contracted complete and completed in its entirety

Although there are many hybrid modalities of this type of contract in which the entire work is not covered, or the contractor's responsibility concerns only coordination tasks. In the simplest case, this contract is unique; that is, when it is commissioned, the contractor of the entire process does not need any other commitment that includes the owner (TFEU, 2012). Precisely for this reason, the contract must expressly contemplate the responsibilities contracted by the contractor that it assumes would be, among others:

- It is obtaining information and documentation before the start of work.
- Include drafting of the project or similar document that the work requires according to its nature.
- Must be performed the total execution of the works and, where appropriate, supervision or technical direction thereof.
- Final legalization of the works.

- Include the global price of works and methods of payment.
- The risks assumed by the contractor should also be considered, which would be all those inherent to the responsibilities contracted, which must be guaranteed by specific civil liability insurance. It also included those derived from possible fluctuations in the price of materials and labor that cannot affect the agreed price, as well as the commitment of the established deadlines and a possible penalty for non-compliance.

3.9 EPC contracts management: obligations and clauses

Turnkey contracts are also called Lump sum turnkey (LSTK) in Project Management, imply obligations by the client and the contractor, and may contain a series of clauses, as in other types of contracts (Schuhmann, 2020, ss. 169-180). In the field of Project Management, the client's obligations in turnkey contracts are as follows:

- Allow the contractor access to the construction site.
- Support the contractor in obtaining permits and licenses.
- Pay the contract price.

For its part, the contractor's obligations in this Lump sum turnkey contracts are:

- Obtain the necessary permits and licenses.
- Carry out the design of the plant.
- Carry out the realization of the turnkey plant and correct all defects that may occur following the contract.
- Provide the customer with the operating and maintenance manuals for the plant.
- Clauses of an LSTK project.
- The principal clauses of an LSTK project may affect the design of the project itself, construction site, execution period, guarantees of compliance, the law governing the contract, price, and method of payment.
- Elaboration of the project design.

- Compliance with performance guarantees required a priori contractually.
- The construction site in general. It includes all access to the same site.
- Availability of public services.
- Finish date.
- Successive completion dates.
- Construction program.
- The price and method of payment can be as a fixed amount, unit prices, or reimbursement of expenses (valuation of variations, partial payments), milestones.
- Contractual rights and obligations established under the law.
- Interpretation of the contract agreements. Usually, from the place (country) where the project takes place.
- Turnkey contracts present inherent risks based on their characteristics. The estimation of the final price, the stipulated determined period, the contracting of the complete or entire work, and the fact of having a single contractor are some of them.

3.10 Determinants of the viability of EPC contracts in Marine Engineering Infrastructures

The support systems described for choosing the most appropriate type of contract are useful in their range of applications. It has made an exciting conceptual contribution, although these are limited in the evaluation criteria, the intervention of fundamental factors is missing when deciding on the most suitable contract model in certain circumstances. These do not contemplate the characteristics that the public authorities that are going to develop or manage them must-have, nor do these specify the requirements for contractors or the financial conditions necessary for the viability, risks, or technological developments. However, the accumulated experience and the information collected in databases have allowed these systems to evolve and build computer models that allow quantitative evaluations to be carried out and justify the decisions made by the public sector.

The objective of implementing a decision support system is to help Public Sector Entities in selecting the most appropriate type of contract to justify or rule out, the turnkey contracting of a project. Tools would be based on the qualitative evaluation of some determining factors through the analysis of the decisive elements in the development of a turnkey project. It should have been studied before deciding on the type of contract to adopt in each project. The determining factors are:

Client

The client, public or private, has three essential obligations:

- must provide the contractor with all the information that he requires for the correct execution of the work
- must pay the agreed price to the contractor
- must receive or accept the agreed work

What is relevant is that there is a suitable interlocutor capable of defining the requirements and parameters of the project to be developed.

The following five qualities highlighted in the study, as mentioned above by Bo Xia y Albert Chan (2010), should be evaluated: 1) Ability to clearly define the scope and objectives of the project. 2) Contract management capacity. 3) Adequate staff or team of consultants. 4) Effective coordination with contractors. 5) Experience in similar projects. If their analysis, in any of the five aspects indicated, turns out to be negative, it is not recommended that said client choose to use the turnkey contract to develop the project (Xia, 2010, ss. 114-129).

Contractor

The essential obligations of the contractor consist in carrying out the technical and economic studies and projects, approved by the client, that are necessary for the execution of the work. It must execute the work directly or indirectly, hiring all the supplies, administrative permits, accesses, and complementary works that are necessary for the execution of the work. After the work is completed, the contractor must make it available to the clients. Finally, it must be given to the client the rights to industrial property, patents, and licenses inherent to the project, if so, stipulated in the contract.

The award procedure must allow companies in the sector to compete, whether negotiated, restricted, or open to all companies that meet certain conditions. However, the assumption of responsibility by the contractor for the project and work execution condition the process, being this a restricted or negotiated procedure that is most used in turnkey contracts. The objective is to choose the best candidate for that work at that time. The resulting winning company must have technical and economic solvency. Have certificates that demonstrate recent technical references, own qualified, sufficient, multidisciplinary personnel, and financial guarantees.

When evaluating this determining factor, it must be borne in mind that the hallmark of the turnkey contract is the assumption of overall responsibility by the contractor and of the commitments related to deadline and budget. The selected contractor must be trained to meet their obligations. Otherwise, the development of the project would be seriously jeopardized. For these reasons, it is contraindicated to award a turnkey contract to a company or temporary union that does not have proven references for similar works. It is corresponding to the economic solvency and the availability of equipment with proven capacity and experience in managing a turnkey contract (1233/2006 Act on the Contractor's Obligations and Liability, 2019).

Contract

It is necessary to have a contract between the contracting authority and the contracting company that delimits the responsibilities; to collect the deadline, with the corresponding milestones; to set the payment conditions, withholdings, guarantees, penalties, and incentives, if any. That it indicates the approval procedures for works units, commissioning, provisional and definitive reception; determine the arbitration, how and where to settle disagreements between the parties; Identify the work teams, managers, interlocutors, material resources, and the communication and approval procedures. In short, make it as comprehensive as possible (OECD-SIGMA, 2016).

To positively evaluate this factor, it will be necessary to verify that the contractual documents that oblige the parties establish the assumption of risks and responsibilities; the purchasing procedure; deadlines and payment milestones; approval, and delivery procedures. In particular, the verification and acceptance of engineering developed during construction, the content and delivery of the as-built project. The tests that verify that the objectives set in the project have been achieved. If not fulfilled, the use of the turnkey contract is not advisable.

Budget

The turnkey contract is not indicated for simple projects, with low risks, in which labor has a more significant impact than the rest of the work units. The insolvency and execution procedures of a turnkey contract involve mobilizing sufficient budgets to guarantee the correct operation of the elements that characterize these contracts. As the assumption of global risk, technical and economic solvency, teams with experience in the simultaneous development of engineering and construction, purchasing management, equipment assembly, and commissioning.

Studies carried out by the Federal Administration of the United States Highways (Chen, 2015), mentioned above, serve as a reference to set at € 50 million the budget of the projects from which the best results are obtained using the turnkey contract compared to the so-called traditional method. The preceding indicates turnkey contracts are not recommended for projects with budgets of less than € 20 million. The best result will be obtained by contacting the drafting project and work execution separately.

Financing

In the turnkey contract model, the client is responsible for financing the project. Otherwise, other models that include financing by the successful bidder should be used. Fundamental to the evaluation of this aspect will be the guarantee that the client can face the payment milestones and make the consequent cash flows available to the contractor to face the payment obligations generated in the development of the project.

It is customary for the client to make an initial payment to the contractor upon signing the contract. FIDIC in the model contract (Silver Book, 1999), includes as an obligation of the client to present, within a period not exceeding 28 days after receiving a request from the contractor, reasonable evidence available throughout the entire financing contract necessary to pay the contractual price following the corresponding clause. If the client intends to make any relevant change regarding this financial availability, he will notify the contractor in detail.

Risk analysis

The most suitable contracting modality to select is necessary to carry out an analysis of risks that may arise in the development of the project and its circumstances. Efforts should be made to identify the risks to the parties involved and to incorporate in the contract the measures to mitigate them and assign the residual risk to the party that is

best able to absorb it. The risks that, in the author's opinion, are the most significant are summarized and listed below:

• Client Risk: Project approach; economic solvency; contractor selection and contract award procedure; organization and monitoring of the contract.

• Contract Risk: contractual relationship; definition of project objectives; risk sharing; guarantee; economic milestones and technical milestones; partial terms and final term; milestone approval procedure; partial and definitive reception of the work; procedure to determine penalties and incentives for the contractor.

• Contractor Risk: Technical and economic solvency; offer; equipment and means of work available and proposed.

• Financial Risk: Entity or organization, financial conditions, market situation.

• Risk Competent Public Administrations: Permits, environmental requirements, labor legislation, affected services.

• Country Risk: Legislation and legal certainty; currency; industrial and business fabric; Social situation; security; communications; infrastructures.

• Contract Management Risk: Planning and control; teams; cash flow and costs; design and engineering; purchases; building; quality; commissioning and delivery; "as-built" project.

In any naval engineering project or related in design and construction, it is necessary and is usually done, to carry out the corresponding risk analysis. The fundamental difference between crucial contracts with the rest is the overall responsibility assumed by the contractor and the implicit obligation to deliver the working infrastructure, for the agreed price and term. Usually, the budgets will be high, as explained, and the economic risk acquired by the parties is significant. It is inferred that the requirement in risk management is maximum in these contracts. The absence of risk analysis discourages the use of the turnkey contract for the damage that may come to the parties, and ultimately for the viability of the project itself (Hendrickson, 2000, s. (8)).

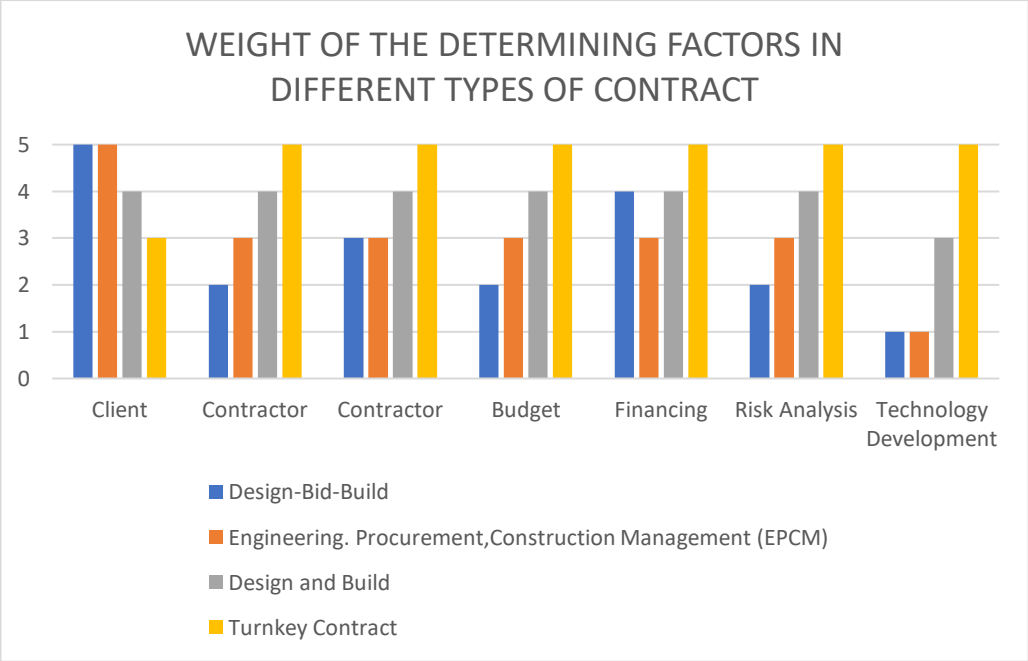
Technological development

The technological developments proposed in a project represent some of the most important reasons for choosing this type of contract. Technology transfer, process, and

technological development make significant differences between the possible solutions to be studied in a given project, and it is in the context of a turnkey contract, which combines responsibility for design, engineering, construction, and commissioning, where better results are achieved. Proposals that contemplate technological developments or other differential technical elements must be valued decisively in the selection process.

The following is a comparative table, collected in Figure 4, with the weight that the author assigns to the determining factors about the four types of contract most used in the international market for the construction of large public works projects: 1) Traditional contract. 2) Engineering, purchasing, and construction management contract. 3) Project and work contract. 4) Turnkey contract.

Figure 5. Weight of the determining factors in different types of contracts (Graph).



A weight of 1 to 5 has been given for each determining factor depending on the type of contract considered. The criterion followed is the evaluation of the determining factor in the development of a determining project. The type of contract is considered and evaluating the degree of responsibility assumed by the client and the contractor—furthermore, the contractual requirements necessary in each case, the incidence of budget, and project financing. The risk analysis must accompany the development of the process, and the response of each contract must focus on technological developments in the development of the project.

The performance procedure followed in the traditional or classic construction contract is to contract separately and successively, the drafting of the project, and the construction of the work. The award of the construction contract is made since the documentation provided by the designer. The contractor is responsible for executing what is stated in the project documents. The linear nature of the process makes the client in practice responsible for errors or omissions in projects during construction. There is not much enthusiasm for the contractor to minimize or improve costs. The opposite effect may arise.

When project drafting and construction contracts are awarded based on the best financial offer, the construction contractor may consider the modified contracts as a means of improving their economic performance on the project. In this contracting model, there is no interrelation between project and work at the same time, because when the work contract is awarded, the project drafting contract has necessarily already ended.

The construction market for large international projects, the classic method of execution of works, requires the intervention of more agents and intermediate steps in the entire process. Risk can be multiplying, especially time and budget, which is why the project and works contract and the turnkey contract have gained much interest in recent years. In both types, a general contractor is tasked with assembling a group of designers and builders to carry out the work under his responsibility (Hendrickson, 2000).

In the project and work modality, the contract usually developed in the same order and usually requires the approval of the client at the end of the project. Regarding the turnkey contract, the overall responsibility assumed by the contractor allows him to carry out the project and work in parallel. Engineering, Procurement, and Construction Management (EPCM), in which the contractor develops the engineering, processes the acquisitions, and manages the work on behalf of the Client, but does not build (Schuhmann, 2020). The Contractor thus becomes its representative and manages on its behalf the contractual relations with Suppliers and Contractors. In this way, the Client will be ultimately responsible for the acquisitions and will approve the contracts. That is why the construction risk falls on himself.

3.11 Public-Private Partnership as an efficient alternative

This part of this thesis focuses on the use of the acquisition of Public-Private Partnership (APP) as a safe alternative in EU Public Procurement. Government entities within their jurisdictions are known to have generally withheld and will maintain the delivery of control of Basic Services. Well, what PPPs do is create long-term contractual obligations by sharing risks and rewards between the two sectors, such as the public and private sectors, causing them to require careful consideration and government approval.

3.11.1 Legal framework

Regulation (EU) No 1303/2013 emitted by the European Parliament and of the Council of 17 December 2013 and repealing Council Regulation (EC) No 1083/2006.[9] (EC)549/2013 Following Council Regulation emitted on 21 May 2013, ESA 2010 applies to all Member States as of September 2014 (ECA, 2018). (EC) No 1083/2006 Council Regulation emitted on 11 July 2006, laying down general provisions on the European Regional Development Fund, the European Social Fund, and the Cohesion Fund (ECA, 2018).[10]

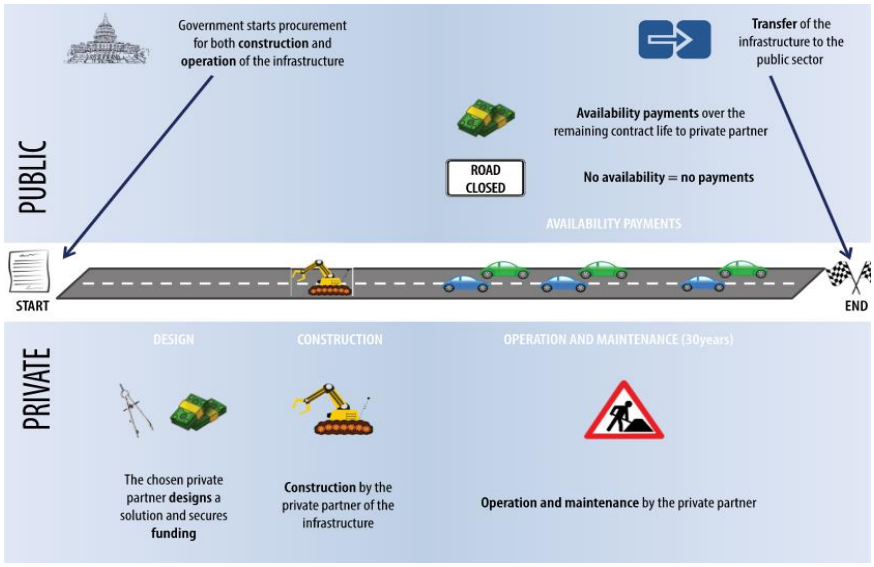
3.11.2 Overview of the PPPs

As is often the case with many concepts, there are several definitions of the term Public-Private Partnership. Currently, there is an accepted definition of PPP from The Organization for Economic Co-operation and Development (OECD), and countries that have incorporated this figure into their legislation and processes have done so in various ways. It is essential to achieve an understanding of what a PPP is and understand its essence, beyond the particularities of each context used. It can be defined as follows: Long-term contractual agreements between the two sectors, the public (government) and private (partner), whereby the private sector provides and finances public services using a capital asset, sharing the risks associated (OECD, 2012).

[9] OJ L 347, 20.12.2013, p. 320
[10] OJ L 210, 31.7.2006, p. 25

The nature and results of PPPs are not different from traditionally awarded projects. It presents some differences in terms of project and contract management, this being the main difference between PPP projects and traditional projects, which is the distribution of risk between the private and public sector partner. In principle, in a PPP project, risks should be assigned to the party that is best qualified to manage them, to achieve the optimal balance between the displacement of risk and compensation for the party that assumes it. Regarding the responsibility of the two partners, it can be seen that the private sector is often responsible for the risks associated with the design, construction, financing, operation, and maintenance of infrastructure. While the other part of society is, in other words, the public sector always assumes regulatory and political risks. Among all forms of PPP, the most common is the Design-Build-Finance-Maintain-Operate (DBFMO) contract. Where all phases of the project are entrusted to the private sector partner, ranging from design to installation, operation, and maintaining infrastructure without neglecting to fundraise, a long-term perspective called "the lifetime approach (EPEC, 2011)."

Figure 6. Scheme of a typical DBFMO availability-based PPP.



Source: European Court of Auditors.

Figure 1 delivers a graphical representation of the different phases of a DBFMO PPP, shown as responsibilities of the public and private partners, respectively. The public partner begins to pay the private party for the use of the service once the construction phase has been completed. The level of quotas generally varies according to the

availability of the infrastructure (availability-based PPP) or the extent to which the infrastructure (demand-based PPP) is used to ensure that the required quality standards are met during the useful life of the project (OECD., 2011).

To emphasize, the types of PPP contracts vary to the nature of the asset or project in question, the functions assumed by the private party, and how the private party remunerates. It should say that the critical characteristics of a PPP are:

- The assets or services provided specify in terms of results rather than products. That is, what achievement is defined rather than how to finish it.
- The project functions relocated to the private party may vary the contract.
- The private party is responsible for project performance.
- The private party assumes a significant risk within the project, as well as the responsibility of the administration.
- Payment to the private party depends directly on the performance and the results obtained.

Likewise, it is vital to point out that the objective of the application of the PPP modality. Regardless of the type of contract, asset, or service to optimize the generated value of the activity, the population receives more significant economic benefits. The public sector distributes its limited resources better, and the private sector drives the necessary profit to justify the investment of financing, as seen in the following figure above.

Public-Private Partnerships are medium and long-term investment schemes, whose primary function and importance are the provision of services to the public sector to specify the development and operation of infrastructure.[11] The execution of these services depends on a tender and award of the PPP the elaboration of projects, and the bidding process requires a considerable amount of time. PPP is responsible for the construction of the work, the provision of equipment, operation, and maintenance during the specified period. The founding in the different projects with capital and credit for the

[11] The principal features of a PPP are 1) provision of a service involving the creation of an asset involving private sector design, construction, financing, maintenance and delivery of ancillary services for a specific period; 2) a contribution by the government through the land, capital works, risk distribution, revenue diversion, purchase, and 3) the private sector receiving payments from government (or users in economic infrastructure) once the operation of the infrastructure has commenced and contingent on the private sector's performance in supplying the services.

duration of the contract may not require public resources for their execution and generally have better performance when robust business projects must develop.

PPP projects are elements of a broader range of contracted relationships and aim at the private provision services for which there is an element of public infrastructure and a single financing element. When talking about these guidelines, it does not want to refer to the private sector investment in infrastructure in those jurisdictions where the government does not have an explicitly direct interest in the provision of public services. Guidelines do not cover procurement methods, those such as contractor management, contracting or subcontracting or traditional methods that are applied in the acquisition when the participation of the private sector is also involved in the delivery of infrastructure or associated services. It is also imperative to highlight that the success of the work to be carried out, and structure of a Public-Private Partnership is directly related to the creation of agreements between the different parties, including the public sector, investors, contractors or developers, operators and those who provide the financing, such as banks.

Asset and service balance

The concept of balance of assets or services of a Public-Private Partnership involves both the delivery of an asset and services associated with a defined period. The variation of the balance of the total value project between the creation of assets and the components of service provision in progress can be high from one project to another. Therefore, consideration of the entire life of the asset and related services is too crucial in this case. As an example of a capital-intensive project, we can take a toll road, which is likely to dominate the creation of assets. In other projects such as schools, courts, prisons, and hospitals, the component of long-term service provision may be more significant, even with the public sector that provides essential services.

PPPs are not privatization

It is imperative to emphasize that the private provision of infrastructure and non-basic services does not imply privatization in one way or another since all governments will generally continue to provide essential services. The PPP's liability assets are transferred for a specific period. A range of requirements must meet at a time transfer.

The following figure shows where PPPs placed within the spectrum of private provision, as can be seen in the following figure number fourteen below.

3.11.3 Benefits of PPPs

For the government departments and agencies, the option of the contracting of the delivery of structure and non-core public services to the private sector creates several opportunities to deliver improved public services with more cost-effectively. PPPs can potentially offer a huge of significant benefits in design, quality of services, and the cost of infrastructure, just drawing upon the best available skills, knowledge, and resources, either these are both in the public sector as are in the private sector. The departments and agencies might focus their efforts on the delivery of Core Services and utilize the savings produced to improve or expand other services, as was mentioned above. Infrastructure costs can also be advanced through the delivery of projects as these are part of a single group instead of organizing long-term capital growth.

The PPPs also provide the construction, service, and finance industries with opportunities to generate efficiencies and cost-effectiveness in the delivery of infrastructure. Moreover, non-core services through innovation and specialist expertise and to develop their businesses by doing so.

The focus of PPPs should try to test the ability to deliver the consequence of value for money to the community (OECD J., 2011). Governments will determine the entire economic amount of private sector participation through the evaluation of both the costs and the benefits of the project. PPPs have the possibility of providing industries such as construction, services, or finance many opportunities for them to generate both efficiency and profitability by delivering non-core infrastructure and services through the exclusive innovation and specialization so that it can develop business by doing so.

The approach that PPPs have is the ability to demonstrate efficiency when delivering value-for-money results to the community. Governments can determine the economic contribution of the participation of the private sector through the cost evaluation and the benefits that the project will bring, as seen in the following table below down the Critical discrepancies within the methodology in procurement. [12]

[12] National Public Private Partnership Guidelines Overview, section 2.2.1 page 9.

Table 3. The traditional Procurement and PPPs contracts.

Traditional Procurement	PPPs
Governmental purchases an infrastructure asset	Governmental purchases infrastructure services
Short-term design & construction contracts (two to four years)	One long-term commitment integrating design, build, finance and maintenance
Input-based specifications	Output-based specifications
The government retains whole-of-life asset risk	The private sector employs whole-of-life asset risk
Payment profile has a point start to pay for capital costs, with ongoing low prices	Payments begin once the asset commission.
The responsibility falls on the government	The responsibility falls on the Private contractor
Government operates the facility	The government may or may not perform the facility
The government manages multiple contracts over the life of the facility	The government controls one arrangement over the life of the facility
Often no ongoing performance standards	Performance standards are in place. Payments may abate if services deliver to a contractual requirement
Handover quality less defined	End-of-term handover quality defined

The value for money

The method of service provision through the Private Financing Initiative (PFI) offers an opportunity for the provision of public services under more economically appropriate conditions. The latter is a concept adopted by the European Union in its public contract regulations, which recognizes that the obligation of governments is not necessary to provide services at the lowest prices or through the cheapest infrastructure (OECD J., 2011). Instead, governments should provide public services that find the best balance between the costs associated with the services offered and the resulting benefits.

However, to evaluate this type, there is no alternative, but rather a long-term cost-benefit analysis. The result has been one of the most fundamental changes in the construction industry in recent decades: the creation of an entire sector dedicated to the management of facilities management facilities, development of tools for the evaluation of life-cycle costs, and administration completely different from the incentives for the industry.

Indeed, since PFI contracts involve the provision of long-term public services, the British Government, through its regulatory institutions, quickly moved away from the idea of cheaper services, to adopt the concept of Value for money. Formally, "HM treasury" defined the concept of value for money as the optimal combination of costs during the complete life cycle of a project, and the quality or capacity to meet the requirements of users.

In effect, as the PFI provided a route to complete projects without needing to find the necessary capital funds for the initial investment required, this quickly became a desirable option for the different departments of the Government. The problem is that this attractive, the risk that the public policy priorities of the departments distorted in favor of those projects that could be subject to a PFI type route. Likewise, the traditional emphasis of the departments of initial capital costs also results in favoritism over low initial capital investment projects. Therefore, the National Audit Office (NAO) established, at short notice, the need to select plans for PFI carefully, referring to the objectives that avoid such distortions (Auditors, 2018). Therefore, NAO confirmed the need for departments to analyze in detail the volume and quantity of services required. Furthermore, all costs, in the long term, be analyzed, regardless of the method for awarding contracts. That is to say, at least since 1999, the national audit office defends the thesis of using life cycle cost techniques for projects of all kinds, whether through PFI or not.

Therefore, the concept of Value for money plays a fundamental role from the beginning of the PFI. The selection of projects, as well as the approval of these, are directly linked to the value for money. Furthermore, since 2004, the British Government has formally defined that the PFI method should be used only to the extent that the provision of value for money demonstrates in the preliminary studies (OECD, 2012). The PFI also suffered from a series of implementation and learning difficulties in both the public and private sectors. This new method involved radical changes in the processes of project evaluation, bidding, negotiation, and administration. Each of these challenges also meant new risks for the practical realization of value for money projected initially. The

British Government formally recognized that it was necessary to develop the skills of the Public Sector in each of these areas (Auditors, 2018).

For this reason, in 1997, the new government of Prime Minister Tony Blair created an organization dedicated exclusively to promoting the PFI and acting as the coordinating entity for all activities related to this initiative. This organization, part of the Treasury Secretariat, was called "Treasury Taskforce" (TTF) (Partnership UK, 2009). The two primary responsibilities of the TTF were: first to establish policies for the implementation of the initiative, and second to promote specific projects. The policy team was made up of treasury officials and other public servants on loan. Moreover, the group related to the development of projects included personnel from the private sector. The Government had recognized that the mechanisms by which the public sector link to the private sector increased in complexity, and these made it necessary to improve and supplement the professional capacities of public officials.

4 DISCUSSIONS AND CONCLUSIONS

4.1 Research conclusions

The intention of having developed this thesis has been to open the understanding of engineers towards other dimensions of process improvement, control, and quality in government procurement systems. The methods presented here have been present for many years in the organizational field. In fact, during the last thirty years, numerous economic, legal, and information technology instruments have been developed. That, well designed, implemented and supervised (controlled), can facilitate a structural change in the government procurement system, making it more transparent, more competitive, and, consequently, more efficient.

Public procurement is a process formed by a legal framework, stages, people, threads, systems, information, activities, and tasks that must be continuously improved if progress is to be made. Not because this provisioning issue is framed in a general legal framework that directs and links its actions, it is limited to obtaining improvements in the processing of requirements, savings in economic resources, decrease in purchasing activities, greater transparency, and higher levels of quality.

Therefore, as stated, the control carried out on this matter, and the use of such information becomes essential to achieve the above objectives. It is not controlled for an instrumental purpose of only ensuring strict regulatory compliance. Nor to comply with an administrative action programmed by the institution. Nevertheless, above all, to know what is happening with the system and its parts, detecting the areas or aspects that deserve improvements and higher levels of quality, without forgetting to seek the reduction of corrupt practices.

The task of any operations manager, public manager, or project manager should be to build control systems to verify, often by inspection, that internal contracting activities are performed following the regulatory framework, and with the standard or goal previously established efficiency and effectiveness. Understanding that processes always require monitoring to ensure compliance, as well as measuring with suitable instruments to improve them and knowing what the beneficiaries of the system expect.

The tools and methods exposed in this investigation and the reinforcement of legal control around public contracts are a necessity and requirement that has increased in recent years. The promotion and incentives to develop critical, analytical, and managerial capacities within the Administration and its contracting, are also essential in this regard. Member states of the union cannot continue to apologize or usually evade how it manages its resources when increasingly there is a more empowered civil society that claims on its excellent use. At the same time, delegitimizes governments and institutions that do not correct the wrong way. These tools come to try to create a new culture of doing things, and therefore, it is required to change the paradigm on how the usual problems and challenges are being faced.

To the above, all the instruments exhibited here are synonymous with information and better management, which deliver tangible benefits. Also, these allow legitimizing the decisions made by public authorities or managers. The misunderstood fears, interests, and traditions of specific political sectors, as well as of some state organs, cannot continue to hinder the great advantage that this type of technique and methods confer. These are only waiting for the public commitment to be executed.

Among the essential tools for improving internal management and quality set out, it is pointed out that every one of those has been applied for years by all kinds of organizations, as required to implement the contracting process without legal or manifest budgets. These should only contain an essential requirement for this: that there be ordered, consolidated and available data on purchases made by the public body, as well as management and heads committed to carrying out this process. The choice of one or the other tool described above will ultimately depend on the conditions of each institution, its resources, and political will.

Concerning methodologies or philosophies aimed at improving the management and quality of the system as a whole, as complementation, it should add in addition to meeting the objectives of the first tools. It seeks to establish a paradigm shift in public employees. The latter takes them to transform their attitudes and actions towards the problems that this matter may present. Those are not just mechanical instruments that are performed once and are forgotten, but a philosophy of permanent work that requires an open mind and letting in new things.

It is convenient to continue insisting on the absence of legal barriers to testing the results that these instruments provide. Only the very obstacles of a political will are present

together with a civil servant culture that must adapt to the present canons. Respecting what the Constitution, the Law of Common Administrative Procedure of Public Administrations, the Law of Legal Regime of the Public Sector, the Public Sector Contracts Law, among other precepts, is a good practice that must be required to the national public sector. It will contribute to efficiency, effectiveness, transparency, and quality. Thus, an important aspect must always be remembered, which mentions that both in public contracting and in the government apparatus in general, public employees must be at the service of citizens and fully comply with the relevant legislation. However, there is a general feeling that these two objectives are not being respected. The most severe thing is that it has been allowed for quite some time.

Describing, analyzing, and improving contracting through the instruments described here must be the result of an imperative comprehensive institutional control that is permanently demanded, and which reinforces traditional legal and budgetary control. Methods must be applied that provide information to improve, understanding that the sustenance of it is through reliable and timely databases, which are the only way to obtain quality levels such as those required today.

In this way, such quality demanded must come from effective and precise control over what substantially needs to be measured, in addition to being defined initially by those who request the acquisitions, that is, internal customers (officials of the public body that demand requirements) and the acquirers of public contracts. Quality is a highly valued feature these days in procurement systems, but it is also poorly understood in practice by lawyers, public managers, and contracting authorities in general. Measuring and delivering higher levels of this attribute should be a gradual process and carried out by regulations that are enforced, and leadership that involves everyone seeking to achieve total quality and not just from some parts. When it is required to obtain this condition, it is necessary to change the current public procurement approach for one focused on the client. Likewise, include in the work process complementary and different disciplines of knowledge to the legal canon. It is essential to improve the current system because this path is the basis for achieving the quality that is being claimed.

Likewise, one must also stop thinking that the tools for improving management and quality from the private sector do not apply to public administration and its contractual system only because it comes from a sector other than the public. The objective pursued by private companies is evident and different from the governmental apparatus, but the path required by both sectors to achieve the goals is the same. It is because similar

resources (material, human and financial resources) must be managed in both sectors, and objectives must be equally achieved in terms of efficiency, effectiveness, and quality. Anyone who believes otherwise in the public sector will not be able to improve or less achieve some degree of an essential innovation in the current procurement system.

Public procurement at EU level has a great challenge ahead, and this is to stop looking at the development of this provisioning matter from a single point of view, and not to continue measuring it through the same instruments and means. The lack of administrative capacity as a latent weakness in this public matter has been revealed in this study. For this reason, it is necessary to ask for help from other disciplines, use best practices such as benchmarking and use new management tools that guarantee and not only propose results.

Professionalize this public area, limit its political incidence in bidder evaluations, create effective leadership, expand its vision, and invite other disciplines. Must be establishing effective internal control procedures and creating up-to-date databases on what happens with the process. Furthermore, above all, positioning the citizen who will receive the acquisitions as the beginning of everything, is the foundation for the effective implementation of these tools and methods here described, where change management requires being a transversal and initial task to advance in all this work.

In conclusion, it must be stated that the member states of the union must move from the desiderative to the operational. That is, to improve the quality of administration (behavior, decisions, and performance) by proposing techniques and practical instruments taken from within and outside the EU, will allow breaking the static that conditions today's European public procurement. Worrying first about what can be done, and then what is forbidden is good practice, not the other way around.

4.2 Propose amendments to the Contract Law

The turnkey contract in national legislation should be contemplated within the articles of the Text of the Public Sector Contracts Law. From the analysis of the text, the non-inclusion as such is revealed. As it has already been indicated when reviewing the legal conditions for the contracting of public works in contract concessions, the public contracting law of all the member countries of the union includes the possibility of a joint award of project and work. Sometimes turnkey contracting has been justified as lump

sum works and works with a closed price, whose legislative precedents are also in the Public Administration Contracts Law and the Public Sector Contracts Law, with its several modifications until drafting current. Said law includes the remuneration system mentioned in the title and the required conditions, limiting the payment of modifications, conditioning the admission of improvements, and warning about price or term invariance.

However, in the Public Sector Contracts Law, it is contemplated that the contract price may be formulated both in terms of unit prices, as a lump sum. On the other hand, none of its articles mention or relate to the turnkey contract. As has been seen, the form of flat rate or closed price, although it is habitual in these contracts, is not decisive for the condition of the turnkey contract. It should be noted that, in specific contests promoted by public administrations of the member states or dependent bodies, the turnkey award is included in their announcements, including in their specifications. However, when these are published, the name is used project and work. In short, turnkey contracting today is not included in the Directives or the legislation of contracts of the Public Sector. Should be amended in Directive 2014/24/EU and a proposal to modify the Public Sector Contracts Law should be launched, which would be developed after it. It would arise because of the studies carried out during the drafting of the public legislation mentioned above.

Turnkey contracts are compatible and collaborate in the policy of transparency in public investment declared in the directives of the European Union and projects of the Public Sector. As is evidenced by its track record in the international construction contracts market and the confidence it has generated in financial institutions and international and multilateral organizations. All these circumstances show the advisability of regulating, within the legislative framework of public sector contracting, the turnkey contract. This measure would provide legal certainty for the execution of this type of contract in the single market, would clarify the scope, would define the responsibilities against the project risks, and would provide a further contracting instrument, verified in the international market, to the Entities of the Public Sector. It would also serve as a reference in contractual relationships between individuals.

The proposal to be made must have the same criteria followed by the authors of the Public Sector Contracts Law, who chose to maintain the structure of the previous draft instead of writing a new text. These modifications should be introduced in the articles of the preliminary draft. Should be indicated before proposing to intervene in the articles to be amended.

4.3 Decision support systems of amendments

Since the approval of the Clinger-Cohen Act (Clinger-Cohen Act, 1996), systems have been developed whose objective was to assist the public sector when deciding on the appropriate contract model to carry out a particular project. Due to their importance and influence, the most significant are listed below (Clinger-Cohen Act (CCA), 2006).

Design-Build Selector

Molenaar (1997) developed a model that allows determining the projects that are appropriate for a turnkey execution. Molenaar and Songer (1998) explain that the original research analyzed 104 projects, through a retrospective case study approach, which resulted in a predictive model with five criteria: 1) General satisfaction. 2) Administrative burden. 3) Compliance with expectations. 4) Variations of the program. 5) Budgetary variations. The support system resulting in decision-making is available on the internet, under the name of “Design-Build Selector” (DBS). Molenaar and Songer (2001) describe how public sector managers can introduce the characteristics of a project into the decision support system to compare it with the 104 projects in the case study. Between 1997 and 2010, the DBS tool was used in more than 200 projects, representing an investment of more than $ 5,000 M. in turnkey contracts, which produced a considerable amount of data from new projects that can improve the original static model.

Preparing for Design-build Projects

Gransberg, Koch, and Molenaar (2006) published a guide that assists clients, engineers, and contractors in the various aspects and phases related to the “design and build” contract. It includes the justification for the use of this type of contract, scope development, performs and operating criteria, guides the request for qualifications and proposals, qualification selection process, and planning the evaluation of proposals; gives guidelines for preparing proposals. Includes case studies and annexes related to contracts in the transport and building sectors, and in a third annex, the documents of a project and works contract are included as an example.

Delivering Construction Management Services

Thomsen (2006) defines a project execution process as "the sequence of defining responsibility, scope, and compensation." Furthermore, states that clients should select the contracting method on the following basis:

- Relationship with the contractor. Ranges from how the contractor is considered to act as a service provider. Until what is considered that the contractor acts as the supplier of a product.
- Payment terms, ranging from a cost-plus agreement (time and materials) up to which it fixes a fixed price.
- The number of contracts concluded by the client, one or few (that is to say, of design and construction) to various contracts in which the client makes the direct contracting of the work.
- Contractor selection criteria are giving as a starting point for the references until the auction.

Project Delivery Methods Guidebook

Touran, Gransberg, Molenaar, Ghavamifar, Mason, and Fithian (2009) participated in the development of a guide for evaluating project execution methods for the Transportation Research Board of the United States National Academy. The publication describes various types of contracts for large projects. The guide includes the assessment impact, advantages, and disadvantages, including operations and maintenance as a component of the contract. The types of contracts studied are Design-Bid-Build, Construction-Management-at-Risk, Design and Build, and Design-Build-Operate-Maintain.

The guide offers a three-tier selection framework that can be used by transportation project clients to evaluate the pros and cons of each method and select the most appropriate one for their project:

Level 1 is a qualitative approach that allows the user to document the advantages and disadvantages of each contracting system. If, after this analysis, it does not get a definite option, the user goes to the next level.

Level 2 is done using a weighted matrix that allows the user to quantify the effectiveness of the methods and select the approach that receives the highest score.

Level 3 uses the principles of risk analysis to evaluate the methods.

The selection framework can also be useful as a means of documenting the decision in the form of an official report. The guide is useful for general transportation managers,

policymakers, purchasing managers, planners, and consultants in evaluating and selecting the right project contracting method for large transportation projects.

The learning model for the selection of a design-build (turnkey) project in the public sector

Published by Bastias and Molenaar (2010), it includes the study carried out to complement Molenaar's original static model (1997), which established a decision-support system, Design-Build Selector (DBS), through a model of formal selection for the execution of projects in the public sector. Bastias and Molenaar's learning model adjusts to parameters and functions using artificial intelligence, as the main engine of knowledge.

Key competences of design-build clients in China

Bo Xia and Albert Chan (2010) carried out a study to determine the competencies that clients of design and build contracts should possess in China. Clients who play an essential role in these contracts, however, lack experience in their application. The study aimed to identify the key competencies that clients must possess to ensure the success of the design and build contracts in the Chinese construction market. Six key competencies that clients should possess have been identified:

- Ability to define clearly the scope and objectives of the project
- Financial capacity to develop the projects
- Contract management capacity
- Adequate staff or team consultants
- Effective coordination with contractors
- Experience in similar Design and Build projects

The Engineering Contract

It is pointed out that the most appropriate type of contract in each case will depend fundamentally on 1) Immediate availability of all the necessary information on the technological process used. 2) Priorities of the project objectives (price-quality term). 3) Technical capacity and the means available at the time to be applied. 4) Economic and financial conditions of the project. 5) Current market situation and its foreseeable evolution in the immediate future. 6) Purpose of the contract.

4.4 Reasons to implement PPP

Based on the relevant literature analyzed and research made, it has been found that PPPs are implemented primarily to achieve potential benefits compared to traditional procurement methods. These include the following:

- Early delivery of a planned capital investment program, as PPPs can provide significant additional funding to complement traditional budget allocations
- Efficiency possibility gains in project implementation by completing individual projects faster
- Sharing risks possibility with the private partner and optimizing costs and their lifetime
- Better levels of the possibility of maintenance and service than traditional projects through a lifelong approach
- The possibility of combining public and private experience in the most effective way to carry out an in-depth evaluation of the project and to optimize the scope of the project

EU accounting framework (ESA, 2010) allows public participation in PPPs, under certain conditions, to be recorded as off-balance sheet items. It encourages their use to improve compliance with the Euro convergence criteria, also known as the Maastricht criteria.

Public-private partnerships (PPPs) take advantage of both the contribution of the public and private sectors to provide goods and services that are usually provided by the public sector, taking advantage of the relaxation of the rigorous budgetary restrictions that apply to public spending. The European Court of Auditors (ECA), with the special report published in September 2018, revealed that even though PPPs have the potential to achieve faster policy execution and preserve high levels of maintenance. However, in the projects audited, it was found that these have not been managed efficiently and have not provided adequate and expected returns. The potential benefits of PPPs were often not realized because these were underused and suffered from long delays and considerable increases in costs.

The Court itself verifies that this caused ineffective spending of € 1.5 billion, of which € 400 million came from EU funds. It was also caused by the lack of pertinent analysis and strategic approaches regarding the use of PPPs and legal and institutional frameworks.

The Court recognized that only a few Member States of the Union had consolidated experience and expertise in executing PPP projects and complete them. When strategically analyzing the above expressed by the European Court of Auditors, it indicates that there is a high risk that it will not contribute to the expected extent to the goal of allocating a more significant proportion of EU funds through combined financing projects such as PPPs.

The Court also certifies that positive results are obtained in the implementation of PPP projects, a considerable administrative capacity is required that can be guaranteed using adequate institutional and legal frameworks, and with ample experience in the application of APP projects. The Court continued to find that these features are currently available only in a limited number of EU Member States. Therefore, the situation is not in line with the EU's objective of allocating a more significant part of the EU funds through combined projects, including PPPs.

Concluding the viability of PPPs contracts for the provision of marine and offshore infrastructure for the public sector, it can be deduced that the combination of EU financing with PPP implies additional requirements and uncertainties. On the other hand, since there is the feasibility of registering PPP infrastructure projects as off-balance sheet items, it is a somewhat important consideration for choosing the PPP option. However, in practice, there is also a risk that this will affect the value for money and transparency.

4.5 Answer to the research questions object of the research analysis

Ending this study, and based on the research, analysis, and reflections carried out, answers will be given to the questions that have guided and structured this master's thesis document:

1. How does is public procurement in the EU being monitored, and what measurement and control instruments are being applied?

Public procurement, at the EU level and in general, is preferably being controlled through a traditional legality examination of administrative actions, and a budget examination, where in addition to validating the regulatory compliance assigned by the budget, it is verified that spent is the same as delivered. From a global perspective, countries such as Canada, the US, and the UK, frequent reviews of system efficiency and effectiveness are conducted, not being a general characteristic in the rest of the nations studied.

According to this research, it found various control instruments on this public issue that are being implemented. The following can be highlighted according to a simple classification:

A. Legal control instruments

- Legal resources after the award of the purchase, such as the resource.
- Internal institutional provisions, such as separation of functions and those responsibilities between the purchasing sub-areas to avoid corruption. Rotation of officials between these same areas, internal official complaint mechanisms for both the contracting staff and the rest of the institution.
- Practical analysis of the regulatory framework to reduce duplication and include the improve the effectiveness of regulations.
- It increased by the sanctions stipulated for breach of contractual agreements.

B. Internal management instruments

- Permanent education and training programs (thereby enhancing self-control).

- Consolidation and management of databases in purchases.

- Creation of management indicators (preparation of dashboards for purchases).

- Internal audits.

- Risk assessment of the entire procurement system.

- Benchmarking or studies of the best practices in acquisitions.

- Application of quality management tools.

- Constant monitoring of relevant (fundamental) aspects of the purchasing system.

- Application of the four-eye principle (existence of several stakeholders who control the internal stages of the purchasing process).

- Customer or citizen service systems or modules (internal institutional complaints and problem management system).

- Supervision of compliance with procedures and ethical manuals on the matter, among others.

Regarding the member countries of the union, and concerning the contracts instruments controlling this matter, the existence of the following tools can be highlighted:

A. Legal control instruments

- Verification of regulatory and budgetary application (legal control and control of budget execution).

- Specialized Resources as instruments that can be applied in any part of the purchase cycle when the notification of the contested act is sent. These can be executed by national organizations such as Intervention Units, Administrative Courts of Contract Resources, Internal Audit Units (public institutions that have them). Also, General Directorates of Legal Security; and the Independent Hiring Regulation and Supervision Offices, and the National Evaluation Office.

B. Internal management instruments

Carrying out an analysis of efficiency, effectiveness, and risks, however, in light of this study, which is not an empirical investigation as such, it could not be asserted that this type of analysis is constant and recurring in each country that is a member of the Union.

2. How does sufficient is the current legal and budgetary control to achieve optimal public procurement?

The illumination emanating from this investigation could verify that the legal, regulatory control, and budgetary and financial control have been insufficient to reach the levels. Levels were demanding efficiency, effectiveness, transparency, and quality required by the public contracting system. It includes the low application of the rules that the EU requires for its members within the single market.

The reason for this is simply because public procurement is not only made up of a legal framework but also includes human resources, financial and material resources, systems, and processes. These elements are imperative to manage optimally, which is why it is necessary to include other types of analysis and controls that can guarantee that all of these are fulfilling the purposes and developing efficiently.

Legal control over compliance with current regulations on contracts, as well as one that monitors that the assigned budget is correctly executed, cannot, even if desired, carry out a comprehensive and cogent analysis on issues of efficiency and economic effectiveness, simplification, and improvement of processes. It fails to achieve better levels of quality in its results. The above has been valued simply because these are not mattering of scope and responsibility.

3. How feasible are EPC contracts in European public procurement when speaking of provisioning of marine technology projects within the single market?

Turnkey contracting gives confidence to financial institutions and international and multilateral organizations in the international design and construction market. Turnkey contracts meet the requirements of the transparency policy in public investment declared in the directives 2014/23/EU, 2014/24/EU, and 2014/25/EU of the European Union and all the draft laws of the Public Sector in member countries of the union. The preceding includes those countries that belong to the EEA and are subject to modify their national legislation following the instructions of the Public Procurement Directives.

In the EU, the turnkey contract modality is already used by private clients, mostly foreigners, for the construction of engineering projects and megaprojects. Companies belonging to the unique market of the marine technology design and construction sector have gained experience in the last three decades in the execution of international turnkey projects. The Public Sector Entities sometimes use the project and work contract, supplying the turnkey contract.

Including the turnkey contract in the community legislative framework would provide legal certainty for the execution of this type of contract in each member of the union. It would clarify the scope, delimit responsibilities for project risks, and provide Public Sector Entities with a contracted contracting instrument in the international market. It would also serve as a reference in contractual relationships between individuals. With the above, a decision support system would be provided, which is a tool to help European Public Sector Entities to justify, or rule out, the turnkey contracting of a project.

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