

BUCHAREST UNIVERSITY OF ECONOMIC STUDIES
Doctoral School of Business Administration



DOCTORAL THESIS

Presented and publicly defended by the author:
ECATERINA-MILICA N. DUMITRIU (c. DOBROTĂ)

Thesis title:
**THE STRATEGY FOR CONCLUDING A DEAL WHILE RESPECTING THE
PUBLIC PROCUREMENT RULES**

Scientific Advisor: Prof. univ. dr. Roxana SÂRBU

Doctoral Thesis Defence Committee:

Prof. univ. dr. Delia Popescu (președinte)	- Bucharest University of Economic Studies
Prof. univ. dr. Anca Cristina Stanciu (referent)	- Ovidius University of Constanța
Prof. univ. dr. Adrian Micu (referent)	- Dunărea de Jos University of Galați
Conf. univ. dr. Mihaela Bucur (referent)	- Bucharest University of Economic Studies
Prof. univ. dr. Roxana Sârbu (conducător de doctorat)	- Bucharest University of Economic Studies

București, mai 2024

CONTENTS

INTRODUCTION.....	1
1. RESEARCH METHODOLOGY.....	9
2. PUBLIC PROCUREMENT – RULES AND THE ROLE OF SMEs.....	16
2.1. PUBLIC PROCUREMENT LEGISLATION.....	17
2.2. SMES’ INVOLVEMENT IN PUBLIC PROCUREMENT.....	20
2.3. BUSINESS STRATEGY CONSIDERATIONS FOR COMPANIES’ PARTICIPATION IN PUBLIC PROCUREMENT.....	22
2.4. APPLYING BMC IN BUSINESS STRATEGY DEVELOPMENT.....	25
3. ANALYSIS OF THE COMPANIES' PARTICIPATION IN PUBLIC PROCUREMENT.....	28
3.1. ANALYSIS OF PUBLIC PROCUREMENT STAKEHOLDERS.....	28
3.1.1. Contracting authority.....	29
3.1.2. Supplier.....	33
3.2. ANALYSIS OF THE SMES' ACCESS TO PUBLIC PROCUREMENT CONTRACTS.....	37
3.2.1. Comparative analysis of the number of SMEs in Romania and the EU.....	38
3.2.2. Comparative analysis of contracts awarded to SMEs.....	39
3.2.3. Tendering facilities granted to SMEs.....	44
3.2.4. Barriers for SMEs in public procurement participation.....	55
3.3 REJECTION RATE - INDICATOR FOR PUBLIC PROCUREMENT PARTICIPATION.....	57
4. INFLUENTIAL FACTORS FOR COMPANIES' PARTICIPATION IN PUBLIC PROCUREMENT.....	62
4.1. RESEARCH OBJECTIVES AND METHODOLOGY.....	64
4.2. TABLE OF QUESTIONNAIRE QUESTIONS.....	71
4.3. CENTRALISED ANALYSIS OF QUESTIONNAIRE RESULTS.....	72
4.4. HORIZONTAL ANALYSIS OF QUESTIONNAIRE RESULTS.....	79
4.5 STATISTICAL ANALYSIS OF QUESTIONNAIRE RESULTS.....	114
4.6 RESULTS CONCENTRATED ANALYSIS BY QUESTIONNAIRE SECTIONS.....	120

5.	THE DEVELOPMENT OF A BUSINESS STRATEGY MODEL IN COMPLIANCE WITH PUBLIC PROCUREMENT RULES.....	126
5.1.	ESSENTIAL QUESTIONS FOR DEVELOPING THE BUSINESS STRATEGY.....	129
5.2.	BMC BUSINESS PLANNING WITH THE APPLICATION OF PUBLIC PROCUREMENT RULES.....	130
5.2.1.	BMC (business strategy) at the macro level.....	133
5.2.2.	BMC (business strategy) at the micro level.....	154
6.	PROPOSALS FOR BUSINESS DEVELOPMENT BY IMPROVING INTERNAL RESOURCES.....	166
6.1.	TRAINING OF PERSONNEL RESPONSIBLE FOR PUBLIC PROCUREMENT.....	167
6.1.1.	Quantitative and qualitative aspects of the need for training in public procurement.....	171
6.1.2.	Prospects for training public procurement experts in universities.....	181
6.1.3.	Development of internal procedures for tendering activities.....	191
6.1.4.	Need for establishing the profession of public procurement expert.....	196
6.1.5.	Developing public procurement clusters.....	200
6.2	DIGITISATION OF THE COMPANY'S ACTIVITIES.....	201
6.2.1.	Digitisation of the tendering process.....	203
6.2.2.	Use of electronic signature.....	210
	CONCLUSIONS.....	214
	BIBLIOGRAPHY	228
	APPENDIXES	255
	List of abbreviations.....	276
	List of tables.....	278
	List of figures.....	278
	List of Appendixes.....	281

Keywords: business strategy, Business Canvas Model, SME, public procurement expert, digitization

THE SUMMARY OF THE THESIS

The participation of the companies, especially SMEs, in public sector contracts is a concern for various national and international bodies, taking into account the significant amounts allocated to public procurement from GDP. The report of the European Commission published in 2021 on "The Analysis of SMEs' needs in public procurement" is the most comprehensive study ever carried out on the barriers that companies encounter in this area and on the actions that need to be taken to improve SMEs' access to public procurement. This report is also relevant for Romania, being taken into account in the development of the National Public Procurement Strategy 2023-2027.

The involvement of SMEs in public procurement is below the level of their contribution to the economy of European Union Member States. They are often found in contracts as subcontractors, third party supporters or suppliers in association with other economic operators.

Winning public procurement contracts is a complex, time-consuming and costly process. In order to have a chance of becoming a contractor, the economic operator must pay considerable attention to planning its future business, taking into account external and internal factors that may influence it. The personnel training and the digitisation of activities are two of the factors that play a significant role in a company's performance in public procurement.

The doctoral thesis "The strategy for concluding a deal while respecting the public procurement rules" contains 6 (six) chapters.

The first chapter, "*Research Methodology*", presents the research methods and methodologies applied, as well as the databases used for the research. The Clarivate - Web of Science database was used for the literature review, various reports, issued by the European Commission, the National Agency for Public Procurement (N.A.P.P.), the National Council for Solving Complaints (N.C.S.C.), the European Court of Auditors and other bodies were analysed to determine the involvement of companies in public procurement. In order to identify the factors influencing the participation of companies in public procurement, a questionnaire was drawn up and the information obtained from the answers to this questionnaire was analysed quantitatively and qualitatively. Using the Business Model Canvas (BMC) developed by Osterwalder and Pigneur

(2010), two business strategies were proposed: a BMC at macro level for the orientation of the company's business towards public procurement and a BMC at micro level for the participation in a specific tendering procedure.

The second chapter, *"Public Procurement – Rules and the Role of SMEs"*, covers the conceptual framework regarding the applicable legislation, SMEs' involvement in public procurement, the business strategy issues for companies' participation in public sector contracts, and the use of the Business Model Canvas for this area. Analyses were made concerning public procurement legislation, reports, studies, and communications from various national and international bodies, etc.

In the third chapter, *"Analysis of the Companies' Participation in Procurement Procedures"*, an assessment of the companies' interest in participating to public procurement was carried out.

For an understanding of the need for procurement which determines the companies' interest to become contractors, the number of contracting authorities in Romania was first studied, with their distribution by county being based on information from the Electronic Public Procurement System (E.P.P.S.). A comparative analysis, by county and development area, between the number of contracting authorities and the number of resident population was carried out using information from E.P.P.S. and the website of the National Institute of Statistics.

With the purpose of understanding the volume of public procurement carried out annually, between 2018 and 2022, an analysis of the number and values of contracts awarded through the Electronic Public Procurement System was made, taking into account the report of the National Agency for Public Procurement - "Indicators for monitoring the efficiency of public procurement procedures finalised with a contract". A comparative analysis of the number of contracting authorities that awarded contracts and the number of these contracts was also carried out.

The research continued with the analysis of the bidders, i.e. the participation of economic operators in the tender, their number and the role they can play in the tender. In order to determine the participation of economic operators to public sector contracts, a comparative analysis between the number of operators participating in public procurement (registered in E.P.P.S.) and the number of active professionals (registered with the National Trade Register Office) was carried out.

SMEs play a key role in increasing competitiveness and economic development, accounting for about 99.8% of all non-financial enterprises. Their involvement in public procurement has been researched based on the annual reports prepared by the N.A.P.P. during the period from 2018 to

2022. For this purpose, comparative analyses were made between contracts signed by all economic operators and contracts signed by SMEs, in terms of the number and values of the awarded contracts. For SMEs, the distribution by type of contract (supply, works and services) was also analysed in terms of the number and values of concluded contracts.

The Law 98/2016 introduced a number of improvements to the tendering rules in order to increase SMEs participation to public procurement: the division of the contract into lots; participation in the tender with other economic operators (by association, subcontracting or by supporting technical, professional and/or financial capacities); the use of the European Single Procurement Document (E.S.P.D.); direct payment to the subcontractor and SMEs involvement in innovation.

The participation of the SMEs in public procurement was analysed in terms of the obstacles they experience.

Thus, the following barriers were identified:

- low confidence of the companies in tendering procedures resulting from: contracting authorities not honouring their payments to the contractor on time, triggering financial problems for SMEs; public institutions not carrying out transparent procedures, buying directly, incorrect evaluation of tenders;
- inaccessible requirements in the tender documents, such as high values of qualification criteria (similar experience, resources, turnover, etc.) that cannot be met by small companies who prefer to be subcontractors for large companies; excessive technical conditions that do not reflect the need to select the right contractor;
- burdensome administrative tasks (long duration of tender procedures, request for a large number of documents for the preparation of the tender, etc.).

In addition to these barriers, the companies' ability to access the electronic public procurement platforms is low due to low digital literacy of the personnel responsible for tendering.

Many of these barriers are based on the insufficient training in the field of public procurement for people who work for both contracting authorities and bidders.

The training level of the personnel involved in tendering is reflected in the reasons for rejection of tenders. In this respect, an analysis was carried out to identify the causes for which tenders were excluded from the tendering process. The degree of tenders' rejection is a relevant indicator reflecting part of the reasons why companies do not end up concluding contracts in the public sector.

The fourth chapter, entitled "*Influential Factors for Companies' Participation in Public Procurement*", contains the author's research regarding the problems faced by economic operators in winning public procurement contracts.

The main objective of the research from this chapter was to determine the influence of certain factors on the company's participation in tender procedures, in particular the training or the personnel involved in public procurement and the digitisation of activities, with the aim of achieving a business strategy model.

The research hypotheses were based on the conclusions of the European Commission Report (2021), the annual reports drawn up by the National Agency for Public Procurement, the National Public Procurement Strategy 2023-2027 (N.P.P.S 2023), the jurisprudence contained in the decisions of the National Council for Solving Complaints, the decisions of the Romanian courts of appeal, the decisions of the Court of Justice of the European Union (C.J.E.U.) according to which the participation of economic operators in public procurement is affected by *factors external to the company* (excessive administrative burdens, low confidence in purchasers, tender documents not in line with the reality of the market or incorrectly drafted, etc.), but also *internal factors* (lack of personnel trained in public procurement and in the use of electronic procurement platforms, low level of digital literacy, difficulties in identifying tendering partners, etc.).

The factors that are external to the company are mainly based on the degree of training in public procurement of the contracting authority personnel involved in the process (from the drafting of the necessity report to the award of the contract), respectively those working in the procurement department and in the departments benefiting from the contracts (such as technical, legal, audit, accounting, etc.).

It has also been taken into account that the whole procurement process (both the tendering and the bidding process) is also influenced by the training level of those working in third party institutions with responsibilities in this area: financing institutions, institutions of control and verification, audit, regulatory, dispute resolution, etc.

At the same time, the company's *internal factors* are mainly produced by the experience and low level of the company's personnel training, the winning of the contract being the result of the quality of the tender, of the manner in which the requirements of the tender documents were fully complied with.

Thus, the level of personnel training is one of the factors that significantly influence the procurement process, from the identification of the purchase necessity to the completion of the contract. The lack of digitisation is also an obstacle when it comes to winning the contract.

The research on factors affecting companies' participation in public procurement was carried out on the basis of a questionnaire survey comprising 37 questions, divided into five sections: "The Respondent Demographic Data" (nine questions), concerning the person completing the questionnaire; "The Assessment of the Training Need for the Procurement Experts" (four questions); "The Assessment of the Digitisation Need for Public Procurement" (four questions); "The Assessment of the Companies (Economic Operators) Participation in Public Procurement" (16 questions), a section dedicated to people who work or have worked for economic operators; " The Company Statistics" (four questions) concerning the economic operator for which the respondent works or has worked.

The target group included members of the online forum "The Public Procurement Experts" (created and managed by ARXIA S.R.L. through the Facebook network) which, at the time of the dissemination of the questionnaire, the 23rd of October 2023, had 18,400 members. According to the sampling method, 376 respondents would have been needed, but the questionnaire was completed online by 474 people.

The results obtained from the analysis of the questionnaire responses reveal that the business strategy to be adopted by the company must be constructed taking into account the following factors that have a major influence on the participation in public procurement:

- developing strategic alliances with other economic operators to submit a joint bid for complex contracts;
- personnel needed for tendering and contract execution;
- the training level of the personnel involved in tendering and contract execution;
- the level of financial and technical resources;
- digitisation of activities.

In the fifth chapter, entitled "*The Development of a Business Strategy Model in Compliance with Public Procurement Rules*", a plan is proposed for approaching the public sector procurement procedures taking into account external and internal factors that may influence the companies' participation in public procurement. The improvement of a company's access to public sector contracts requires an analysis of the impact of these factors and a planning of the tendering and contracting process.

The analysis of the questionnaire responses revealed that the outcome of the tender, respectively the award of the contract, is significantly influenced by the level of training and experience of the personnel involved in the preparation of the tender and in the conduct of the procurement procedure. Furthermore, other factors such as excessive administrative burdens (complex technical requirements, qualification requirements difficult to prove, large number of documents to be included in the tender), the level of access to public procurement, but also the company's level of confidence in public procurement) and the digitisation of activities also have an important influence.

Taking into account the conclusions of the European Commission Report (2021), the analysis results of N.A.P.P. reports, as well as from other materials used, and also the results of the questionnaire analysis, two business strategy models were created on the basis of the Business Model Canvas.

The first BMC model proposes to approach the business at the macro level from the perspective of identifying public sector contracting opportunities. In developing the BMC, the focus is on how to identify public procurement procedures and on the resources needed to participate in the tender.

The second BMC model - at micro level - represents a business strategy tailored to the identified public procurement procedure related to a contract that the economic operator could execute.

The business strategy development would allow visualisation of the process from managerial intent of contracting to that of execution.

The sixth chapter entitled "***Proposals for Business Development by Improving Internal Resources***" includes studies on two of the factors that significantly influence companies' participation in public procurement: personnel training and digitisation of activities.

With respect to *the training of the personnel involved in public procurement*, quantitative and qualitative aspects were investigated by determining the categories and number of specialists needed in public procurement (data regarding the number of contracting authorities and the number of economic operators were centralised from E.P.P.S).

The number of hours that would be required for procurement training was analysed based on the results of the questionnaire and the qualification rules set out in the Occupational Standard for Public Procurement Expert (2021).

Using information from the National Register of Higher Education Qualifications and the National Register of Postgraduate Programmes, we analysed master and postgraduate programmes that include the discipline "Public Procurement" or are related to COR 242116, in order to determine the interest of the university environment for organising courses in this field, with the aim of identifying opportunities for the development of educational programmes and the support that universities can provide to the business environment and public institutions.

The qualification requirements of the Occupational Standard provide an opportunity for higher education institutions to develop educational programmes, since an estimated 200,000 people have a need for university-based training.

The transition from the occupation of procurement expert to the profession still remains a desideratum in N.P.P.S. 2023. Through professionalisation, public procurement shall become more efficient; specialists shall have credibility in the eyes of economic operators and employees, and shall create significant changes in practice in the approach to public sector contracts.

The analysis that has been carried out on *the activities digitisation* factor showed that Romania ranks last in the DESI - Digital Economy and Society Index hierarchy on this aspect. Due to the lack of knowledge of working in the Electronic Public Procurement System platform and the non-use of extended qualified electronic signatures, companies are eliminated from the competition.

The implementation of a procurement management programme, customised for tendering and procurement respectively, will increase the speed of work, reduce the risk of errors, reduce the time of document circulation within the entity (time lost in endorsing and approving documents). It will also reduce the costs of: consumables and office equipment (toner, paper, binders and printers), document archiving and storage services (shelving, ventilation and storage facilities, etc.), salaries of the people responsible for storage and archiving, etc.

The last chapter contains "**Conclusions**" which highlights the fact that the implementation of a public procurement contract is a complex process for which economic operators need to plan their activities thoroughly, in all aspects, drawing up a BMC business strategy. The chances for the companies to win public sector contracts can be increased by employing personnel trained in public procurement and moving towards digitisation.

By establishing the profession of public procurement expert, public procurement shall become more efficient; specialists shall have credibility in the eyes of economic operators, but also of employees, shall create significant changes in practice, in the approach to public sector contracts.

The development of educational programmes in the field of public procurement is an opportunity for universities to support the business environment and the public institutions.

The Bucharest University of Economic Studies, being involved in the promotion of the professions of chartered accountant and certified accountant, can support the Romanian Government in establishing the profession of public procurement expert. The creation of a register of public procurement experts will enable companies and public institutions to select competent professionals.

The doctoral thesis consists of six main sections, accompanied by the introduction and conclusion chapter, appendices and bibliography, covering 281 pages.

The thesis was based on 279 bibliographical references that were analysed, of which 235 from the last ten years. The results of the doctoral research were presented in 60 figures/graphs and 20 tables.

During the doctoral research, the author published six scientific papers in BDI-indexed journals, four of them ISI-indexed, and presented papers at 13 international conferences.

Furthermore, the doctoral theses published in Romania, in the field of public procurement, were analysed and ten papers were identified (one of which was published in 2023, one in 2022, and the rest in 2021, 2020 and 2017), out of which seven were available in full. The present thesis is original, adopting a different approach from the ones identified, focusing on the strategy to be applied by the economic operator in participating to public procurement.

The literature studied for completing the thesis covers three key areas: public procurement, SMEs' involvement in the economy and business strategy, in particular the study of the BMC business model. The current state of the research is fully outlined within each chapter of the thesis.

The studies and expert reports, the works published at national and international level by specialists, as well as the databases with relevant information in the field of public procurement have led to the decision to research the strategy of running a business under the conditions of compliance with the rules applied to public procurement, given that this is a present-day issue with an impact on the development of companies.