



ROLE-PLAY SIMULATION ON CIVIL ENGINEERING WORK NEGOTIATION

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ABSTRACT

This article addressed a Brazilian negotiation on a failed Federal government acquisition. The contract objective was to deploy a facility. After the bidding process, the winning company discovered a calculation error in the civil engineering work. The teaching material is helpful to scholars, decision-makers, and practitioners. Key findings pointed out the necessity of improving the project scope management and developing best efforts to solve joint problems. Further implications suggest the case replication to other scenarios such as non-governmental negotiations—a complete set of teaching notes complete the present work.

Keywords: Teaching materials, bidding process, integrative, Type II Negotiation

INTRODUCTION: -

Government securing has been a delicate point in Brazil since the new Bidding Law 14.133, from 1 April 2021 (Brasil, 2021), because the Law is in trial time. Therefore, its efficacy still could not be evaluated while this article was written. However, the report addressed a project scope management renegotiation involving two parties and multiple issues or a Type II negotiation (Dias, 2020). In addition, the new Bidding Law encompassed and extinguished four previous bidding laws: (i) Bidding Law 8.666/93, (ii) Law 8.883/93, (iii) Differentiated Contracting Regime Law 12.462/11, and (iv) Electronic Auction Law 10.520/02.

This article addressed a two-party, multiple-issue bidding contract negotiation between a governmental institution and a private company over the civil engineering works on a governmental facility. The bidding process involved several bidders, with one winner. However, Art supported Art, the winning company discovered a project scope error and tried to renegotiate contract terms. 125 from the Bidding Law 14.133/21 (Brasil, 2021).

This article investigated a Type II negotiation (Dias, 2020), including a two-party, multiple-issue, role-play simulation. A complete set of teaching notes is enclosed (see the Annexes). The actual locations, names of the participants, and sensitive data were omitted, names changed, to protect the identities of the involved, once the contract is still in force as this article is written.

This article addressed a single case study involving the Military Organization commander (MO) and the Private Civil Engineering Company representative as the unit of analysis (Yin, 1988). The case is limited to the Federal Constitution, of 5 October 1988 - Art. 37, item XXI, in turn, "disciplines the contracting of works, services, purchases and disposals by the direct and indirect public administration of any of the Powers of the Union, States, Federal District, and Municipalities." (Brasil, 1988).

We aimed at providing new information on government acquisitions, helpful to teachers, scholars, decision-makers, policy-makers, negotiators, and other practitioners in general, with an insightful teaching case on project scope management. The topic has been investigated in recent works (Dias, M.; Andrade, S.; Silva, M. R.; Teles, G.; Mello, B.; Moura, R.; Salazar, A.; Sotoriva, L.M.; Mariotti, A; Filho, C., 2021; Dias, 2020, 2019; Dias, Lopes, Teles, Pereira, and Castro, 2020; Dias & Lopes, 2019; Dias & Teles, 2018; Dias and Duzert, 2017; Dias & Navarro, 2017).

Negotiation is "a process in which individuals work together to formulate agreements about the issues in dispute. This process assumes that the parties involved are willing to communicate and to generate offers, counteroffers, or both." (Rubin and Brown, 1975, p.461). Negotiation is also a "form of decision making in which two or more parties talk with one another in an effort to resolve their opposing interests." (Pruitt, 1981, p. xi)

Negotiations have been widely studied over the past decades (Dias, 2020, 2020b, 2019; Raiffa, 1982; Ury, 2015; Cohen, 1980; Sebenius, 1992; Moore, 2003; Fisher Ury and Patton, 1981; Salacuse, 2008; Duzert and Zerunyan, 2015; Susskind and Field, 1996; Susskind & Cruikshank, 1987). In this article, we followed Dias (2020) Four-Type Negotiation Matrix taxonomy to classify the single negotiation case. The following Figure 1 illustrates the Negotiation Matrix:

The Four-Type Negotiation Matrix



Figure 1: The Four-Type Negotiation Matrix. Source: Dias, 2020. Reprinted under permission.

Observe in Figure 1 that the present case addressed a Type II negotiation, in which two parties negotiated multiple issues. In the next section, the research methods and limitations are presented.

RESEARCH LIMITATIONS AND METHODS: -

In this qualitative work, we combined an inductive rationale with an interpretive approach. The government acquisition of civil engineering works is the unit of analysis (Yin, 1988). We also employed multiple methods, including (i) direct participation, (ii) direct observation, and (iii) case study. Finally, this case is supported by Goffman's dramaturgical theory (1959, 1961). Brazilian Federal Constitution 1988, Art. 37, item XXI (Brasil, 1988) and the Bidding Law 14.133/21 (Brasil, 2021) limit the case. The Bidding Law 14.133/21 excluded the hypothesis of Direct Contracting (Art. 72) provided for by Law for exceptional cases, that is, by non-enforceability (Art. 74) or by exemption from bidding (Art. 75). Other countries and normative should be investigated in separate studies. The criteria are limited to Articles 124 and 125 of Law 14.133/21, as shown in Table 1, as follows:

Table 1
Criteria for the contract addendum - Law 14.133/21

Legal Device	Description
Art. 124, item II	<p>Contract Change - by agreement between the parties:</p> <ul style="list-style-type: none"> a) when it is convenient to replace the performance guarantee; b) when it is necessary to change the regime for the execution of the work or service, as well as the mode of supply, because of the technical verification of the inapplicability of the original contractual terms; c) when it is necessary to change the form of payment due to imposition of supervening circumstances, keeping the initial amount updated and the advance payment about the established financial schedule is prohibited without the corresponding consideration for the supply of goods or execution of work or service; d) to re-establish the initial economic and financial balance of the contract in case of force majeure, fortuitous event or fact of the

prince or as a result of unpredictable or foreseeable facts of incalculable consequences, which make it impossible to perform the contract as agreed, respected, in any in this case, the objective allocation of risk established in the contract.

Art. 125

In the unilateral changes referred to in item I of the main section of Art. 124 of this Law, the contractor will be obliged to accept, under the same contractual conditions, additions or deletions of up to 25% (twenty-five percent) of the updated initial value of the contract that is made in the works, services or purchases, and, in the case of building or equipment renovation, the limit for additions will be 50% (fifty percent).

CIVIL ENGINEERING WORK NEGOTIATION: -

The objective of the government acquisition was to build a facility for a given sector and its subdivisions. The industry, here called Sarpra, involved a multifunctional complex with facilities such as (i) warehouse, (ii) garage, (iii) accommodations, (iv) briefing rooms, (v) administrative area, (vi) workshops, and (vii) maneuvering yard. The project was carried out by a subsidiary of Plantar, which belonged to the FAMA group. All are public entities and are subject to the laws in force.

The bidding event was held, and Braseng company was the winner, for a total value of R\$ 10,000,000.00, within 15 months. Braseng has an excellent reputation, with enough capital to carry out the work on that figure, having as an obstacle not to be headquartered where Plantar was located. After the signing of the contract, Braseng started the project. However, by delving into the enterprise's spreadsheets, he identified several errors in the same that would make the work unworkable in the amount agreed in the contract. The result was already with 35% of the physical schedule performed and in the financial only 12%. Furthermore, the company was running out of cash. After analysis of plantar engineers, the error identified by the construction company (Braseng) was confirmed. As a result, the actual values for completion of the work reached the sum of R\$ 14,000,000.00.

Braseng proposed that the 40% additive in the contract be made to finish the work according to the project. However, according to Art, the legislation in force allowed a maximum additive of 25% for design errors (See Table 1), which would make the work unfeasible. Furthermore, Plantar said it could not pay for the complete work by the legal imposition. Braseng informed that it was already committed to raw materials, machinery. Braseng threatened to paralyze the work and abandon the contract.

In sum, a Type II Negotiation (two parts, multiple issues negotiated). Yet, at the same time, the Administration essentially resented this work, not having the time to make another bidding process, with due losses for all the parties.

DISCUSSION: -

The bidding civil work negotiation addressed a Type II Negotiation (Dias, 2020). The case was designed for classroom executive training sessions, teachings, or instructional courses. Nevertheless, it very well may be utilized in far-off virtual meetings due to the Covid social portability limitations.

This case has implications on several fields of research: (i) business negotiations involving governmental, and non-governmental organizations dealing with governments (Dias, M. & Navarro, 2017; Dias, M. & Duzert, 2017; Dias, 2020; Dias, 2019, 2018; Paradela, V.; Dias, M.; Assis; Oliveira, J.; Fonseca, R.,2019); (ii) negotiations between

government agents (Dias & Navarro, 2018); (iii) buyer-seller negotiations (Dias, M. et al., 2015; Dias, M. et al., 2015, 2014, 2012; Dias, M., et al., 2013, Dias, M., et al., 2014; Dias, M. and Falconi, 2018; Dias, M., 2018); (iv) e-business negotiations (Dias, M., & Navarro, 2018); (v) public negotiations (Dias, M., 2018; Aylmer & Dias, M., 2018; Dias, M., Teles, and Duzert, 2018; Dias, M. and Duzert, 2018); (v) debt collection negotiations (Dias, M., 2019, 2019b; Dias, M. and Albergarias, 2019); (vi) family business succession (Dias, M., & Davila, 2018); (vii) civil construction versus public projects (Dias, M., 2016), (vii) Contract bidding Negotiation (Dias, M., Nascimento, C.; Lima, M.; Santos, A.; Duarte, M.; Rocha, M.; Martins, M.; Mendes, F.; Filho, R.; Marques, L.; Filho, C.C., 2021), for instance.

Finally, the case is limited to the Brazilian legislation in force. Other countries should abide by their normative in additional studies. Finally, the article is limited to a Type II Negotiation. Negotiations Types I, III, and IV are not the scope of this work

FUTURE RESEARCH

For future research, we encourage the investigation of negotiations Types I, III, and IV. We also recommend studying the impact of the current Bidding Law 14.133/21 in the general Government Acquisition interaction to research the adequacy of the Law in force.

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APPENDIX I

Teaching notes

Scenario: the case illustrates the troubles of gatherings with the Brazilian government civil engineering works negotiation case, targeting further developing the arrangement abilities of government mediators, researchers, decision-makers, and professionals through a two-party, multiple-issue, Type II negotiation (Dias, 2020).

Mechanics: parties should take 45 min to 50 min to read the case and preparing to negotiate. Negotiation structured mapping is strongly encouraged—30 min to 1 hour of Negotiation plus 30 min to one-hour debriefing session. In total, one hour to two hours total time for the role-play simulation.

Significant Lessons: the parties should put their best efforts into reaching deals through joint fact-findings and cooperative behavior.

Objective: this role-play was designed to discuss the role of the parties in an integrative, Type II negotiation involving two parties and several issues negotiated.

MAIN FEATURES	
Time required	1 hour - 2 hours
Number of participants	2 parties, commander and company director
Groups involved	No
Agent present	No
Third part present	No

APPENDIX II

PART 1

◆◆ COMMANDER OF THE Military ORGANIZATION ◆◆

GENERAL INFORMATION

You are the Commander of your Military Organization (OM), here called Plantar. You contract the construction work of a building that would house a sector and its subdivisions. The sector, here called Sarpra, involved a multifunctional complex with facilities such as: warehouse, garage, accommodations, briefing rooms, administrative area, workshops and maneuvering yard. The project was carried out by a subsidiary of Plantar, which belonged to the FAMA group. All are public entities and are subject to the laws in force.

As it is a public acquisition, the negotiation is therefore governed by the Bidding Law 14.133/21, excluding the hypothesis of Direct Contracting (Art. 72) provided for by law for special cases, that is, by non-enforceability (Art. 74) or by exemption from bidding (Art. 75).

The bidding event was held and Braseng company was the winner, for a total value of R\$ 10,000,000.00, within 15 months. Braseng has an excellent reputation, with enough capital to carry out the work on that figure, having as an obstacle not to be headquartered where Plantar was located.

After the signing of the contract, Braseng began the work within what the project provided for. However, by delving into the spreadsheets of the enterprise, he identified several errors in the same that would make the work unworkable in the amount agreed in the contract. The work was already with 35% of the physical schedule performed and in the

financial only 12%, due to lack of decentralization of credit and lack of cash. After analysis of plantar engineers, the error that had been identified by the construction company (Braseng) was confirmed. The actual values for completion of the work reached the sum of R\$ 14,000,000.00.

Braseng proposed that the 40% additive in the contract be made to finish the work according to the project. However, the legislation in force allowed a maximum additive of 25% for design errors, according to Art. 125 of Law 14.133/21, which would make the work unfeasible. Plantar said it could not pay for the complete work by the legal imposition, while Braseng informed that it was already committed to insum, machinery and hiring to carry out the work and was being harmed by the lack of payment, threatening to paralyze the work and abandon the contract.

CONFIDENTIAL INFORMATION

You have the following options for trading:

ZOPA: from R\$ 10,000,000.00 to R\$ 12,500,000.00

Option 1 - Reduction of the value of the work to R\$ 10,000,000.00 (without the additive of 25%) without losses, claiming that the company should have previously evaluated the project in depth, exembdating the Administration of guilt. **Alternatives:** (i) participate in new bidding; (ii) sell the project to a third party.

Option 2 - Use of Art. 125 of the Bidding Law that allows the additive in 25% of the contract, therefore, reaching R\$ 12,500,000.00.

Option 3 - Extended term of execution to 20 months, per additive, in order to compensate for the reduction of the work rate to help the company. Commitment to adjust the financial settlement schedule.

Alternative - a new bidding process and consequent losses for both parties.

Plantar had as a financial stop the total amount of R\$ 12.5 million, as a possible legal additive. It could also be subtraction of some large services that would not harm the functionality of the work as a whole, until it reached the value of R \$ 12.5 million. However, inserting the additive would displease the top management of the FAMA Group, and could damage its image. He had great difficulty in being able to decentralize credit and obtain cash, since the problems of the work left senior management cautious on the subject, requiring political action that would require time and could cost his position. Get ready to negotiate with the Director of Braseng.



PART 2

◆◆ DIRECTOR OF BRASENG ◆◆

GENERAL INFORMATION

You are the Director of braseng company, responsible for the construction of a building that would house a sector and its subdivisions. The sector, here called Sarpra, involved a multifunctional complex with facilities such as: warehouse, garage, accommodations, briefing rooms, administrative area, workshops and maneuvering yard. The project was carried out by a subsidiary of Plantar, which belonged to the FAMA group. All are public entities and are subject to the laws in force.

As it is a public acquisition, the negotiation is therefore governed by the Bidding Law 14.133/21, excluding the hypothesis of Direct Contracting (Art. 72) provided for by law for special cases, that is, by non-enforceability (Art. 74) or by exemption from bidding (Art. 75).

The bidding event was held and his company, Braseng, was declared the winner, for a total value of R\$ 10,000,000.00, within 15 months. His company has an excellent reputation, with enough capital to carry out the work on that figure, having as an obstacle not to be based where Plantar was located.

After the signing of the contract, Braseng began the work within what the project provided for. However, by delving into the spreadsheets of the enterprise, he identified several errors in the same that would make the work unworkable in the amount agreed in the contract. The work was already with 35% of the physical schedule performed and in the financial only 12%, due to lack of decentralization of credit and lack of cash. After analyzing plantar's engineers, the error that had been identified by your company was confirmed. The actual values for completion of the work reached the sum of R\$ 14,000,000.00.

You proposed that the 40% additive be made in the contract to finish the work according to the project. However, the legislation in force allowed a maximum additive of 25% for design errors, according to Art. 125 of Law 14.133/21, which would make the work unfeasible. Plantar said it could not pay for the complete work by the legal imposition, while Braseng informed that it was already committed to insum, machinery and hiring to carry out the work and was being harmed by the lack of payment, threatening to paralyze the work and abandon the contract.

CONFIDENTIAL INFORMATION

You have the following options, alternative and ZOPA for trading:

ZOPA: from R\$1,000,000.00 to R\$ 12,500,000.00

Option 1 - schedule of 30 months, due to the greater complexity found and above the need in the initial project; Realization of the work in the amount of R\$ 14,000,000.00;

Option 2 - Use of Art. 125 of the Bidding Law that allows the additive in 25% of the contract, therefore, reaching R\$ 12,500,000.00.

Option 3 - Strict compliance with legal settlement deadlines, immediately, or would abandon the work for non-compliance with contractual clauses.

Alternative - a new bidding process and consequent losses for both parties.

You are tense because a mismovement and you can lose both the project, which would tarnish the solid reputation of your company, in addition to the possible loss of the position. You admit to making concessions in order to preserve such important contract maintenance. Prepare to negotiate with commander of the Military Organization (OM).

