Negotiation Models for Managing Projects: a Review

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Abstract
Negotiation is a notion that is becoming more and more prevalent in our societies. Negotiation can be met at a personal, business or even international level. Although the international literature over negotiation is unlimited, the negotiation concept has not been studied very systematically under the scope of project management. In the context of projects, negotiation is a method to resolve conflicts of project stakeholders. Usually, project stakeholders have controversial interests, requirements, goal, needs and expectations and so conflicts are raised. Since conflicts are inevitable during the life-cycle of a project, therefore there is a need to apply techniques in order to manage and resolve conflicts appropriately. The most preferred technique for resolving project stakeholder’ conflicts is negotiation. Most times the involved parties in a negotiation situation behave intuitively. However, experts in negotiation underline that it is critical for parties to understand the process of negotiation and act systematically in order to craft better agreements. Therefore, this paper analyses the existing negotiation models that could apply in the context of projects and offers systematically approach in project negotiations. Furthermore, examines the determinants that every model uses and highlight their common determinants. Discussion haggling over the hypothesis of a common model of managing negotiations in the context of projects.

Keywords: negotiation, project management, project, conflicts, negotiation models

JEL classifications:
F51 - International Conflicts; Negotiations; Sanctions
O21 - Planning Models; Planning Policy
O22 - Project Analysis

Introduction
Negotiations are common in social life. People negotiate both consciously and unconsciously, all the time in a variety of issues. Negotiations’ purpose ranges from holiday’s destination -between friends-, to international trade agreements and peace keeping (Houba and Bolt, 2002). Obviously, negotiations can be met at a personal, business or even international level (Lewicki et al., 2003). This article focuses on negotiations, which occur under the scope of project management.
Negotiations play a significant role in the field of project management (IPMA, 2006). According to Bierschenk (1988), a project can be conceived as an “arena” of negotiation for all the involved groups. This characterization reflects the unchallengeable presence of negotiation during the implementation of the project. Actually, project implementation is a continuous process of negotiation. Project negotiations can be either formal or informal. Formal project negotiations are related to procurement tasks and for developing the project contract. On the other hand, informal project negotiations entail a number of issues, such as resource allocation issues, project scope changes or schedule delays (Köster, 2010).

Although negotiations are a usual phenomenon in the project context, project negotiations have not been studied very systematically in the literature (Dudziak & Hendrickson, 1988, cited by Yousefi et. al., 2010; Murtoaro and Kujala, 2007). This paper aims to study project negotiations via a systematic approach. Particularly, the purpose of this paper is to investigate if there is a common model of managing negotiations in the context of a project. In the pursuit of this goal, first there is a targeted mention for the existing models in the literature. Then, a critical comparison between them is conducted in order to conclude on a matrix of common determinants.

This paper is structured as follows: section 2 points out the definition and the characteristics of the negotiation. Afterwards, the four construction management generic processes in the project life cycle are presented and associated with the causes that may trigger negotiations in the project context. In section 3, the existing models are analysed and finally in section 4, the outcomes of the models’ comparison are discussed.

Background

Definition and characteristics of Negotiation

Negotiation can be defined as a dynamic process among interdependent and self-interested parties with different backgrounds, which aims to reach an agreement that satisfies preferences and constraints of the involved parties (Mouzas, 2006; Sycara and Dai, 2010). Some common characteristics can be identified during a negotiation (Lewicki et. al., 2003): (a) there are two or more parties (individuals, groups or organizations); (b) there is a conflict of interest (goals, requirements, needs, desires, beliefs) between the parties; (c) parties negotiate due to the belief that they are going to gain better outcomes instead of not negotiating; (d) there is no formal perspective to provide a solution to the dispute of the parties; (e) a “give and take” attitude between the parties is expected; (f) psychological factors usually influence parties during a negotiation.

Generic Processes in the Project Life-cycle

In the context of the project, negotiation is a technique for resolving conflicts between project stakeholders and demonstrates a way of crafting mutually satisfactory solutions (IPMA, 2006). Turner (2007) mentions that projects are structured upon controversial stakeholders’ interests, requirements, goals and expectations. So, conflict is a common event in the project life cycle. According to Winch (2009), there are four generic processes that can describe the life cycle of a project: (a) Defining the Project Mission; (b)
Mobilizing the Resource Base; (c) Riding the Project Life Cycle; (d) Leading the Project Coalition. In each of these processes will be highlighted the causes that lead to conflict and farther trigger negotiations.

**Defining the Project Mission**

The project’s definition is the most critical procedure that preludes project’s initiation. This particular process contains two separate activities: (i) understanding client’s needs and (ii) stakeholders’ management. These activities determine project’s scope and organization, they emphasize on information flow and in this context they achieve in PMBOK’s (Project Management Body of Knowledge Guide) project scope management and communications management knowledge areas. Under this process arise conflicts that primarily concerns project’s deliverables and scope definition (Wilemon, 1975, cited by Kerzner, 2001). Additional, the efficient communication between the stakeholders could assist to the precise definition of project deliverables in order to avoiding continuously changing scope. Indeed, effective communication can prevent project stakeholders from future conflicts (Wong, 2005).

**Mobilizing the Resource Base**

Under this process the project manager determines the procurement system, he performs contractors’ and the payment methods’ selection, while he has to integrate project. This particular process contains three separate activities: (i) forming project coalition, (ii) motivating the project coalition and (iii) managing the dynamics of the supply chain. These activities achieve in PMBOK’s project integration management and project procurement management knowledge areas. Conflicts that may occur concern issues over resources, cost, delivery and specifications (Cleland, 1998).

**Riding the Project Life Cycle**

This process is used by the project manager to handle the project’s implementation in terms of budget, time, quality and risk control. At this process match seven knowledge areas of PMBOK’s Guide: project integration, scope, time, cost, quality, communication and risk management. Conflicts, at this type of process, related to delays in schedule, scope changes, budget variation, specific measures that ensure quality, undertaken risks by the parties. Besides, these conflicts may be worsened from misunderstanding and bad communication among stakeholders (Wilemon, 1975, cited by Kerzner, 2001; Cleland, 1998; APM, 2002; Wong, 2005).

**Leading the Project Coalition**

This final process enables the project manager to perform human resource management since he defines and controls the project’s organization, to which he is obliged to infuse the project’s mission. This process achieves in PMBOK’s project human resource management knowledge area. Under this process, interpersonal conflicts might appear or conflicts about human resource allocation (Wilemon, 1975, cited by Kerzner, 2001; Cleland, 1998; APM, 2002; Wong, 2005).

To sum up, conflicts may arise in every knowledge area of PMBOK Guide, integration, scope, quality, cost, time, risk, human resources, procurement and communications (Cleland, 1998) and therefore in all of the above processes. However the most severe conflicts are these that taken place due to different perspectives on project deliverables and
project scope and controversial interests of project stakeholders (Wilemon, 1975, cited by Kerzner, 2001; APM, 2002).

**Negotiation Models for managing projects**

Since conflicts are inevitable during the life-cycle of a project, therefore there is a need to apply techniques in order to manage and resolve conflicts appropriately. In the literature, five methods are proposed to resolve conflicts (Cheung and Chuah, 1999; Rahim, 2002; Kerzner, 2009): (a) confrontation- the conflict is managed through a problem-solving orientation and gives the best solution (win – win situation) to the involved parties; (b) compromising or negotiation- this technique adopts a “give and take” approach and provides acceptable agreements for all the parties; (c) smoothing or accommodating- this method tries to moderate the negative atmosphere by focusing on parties’ “common ground”; (d) forcing or dominating- parties use this technique to enforce their outlooks against the other parties but unfortunately with “win – lose” solutions; (e) avoiding or withdrawing- parties are unaware of the subject of conflict or unwilling to resolve it.

According to Kezsbom and Edward (2001), the applicability of each technique depends on the conditions that conflict evolves. Of course, the confrontation method is the ideal one, even though usually it is not attainable in real world. However, Meredith and Mantel (2009) support that negotiation is the appropriate technique for conflict resolution in the context of projects. Their opinion based on the fact that negotiation keeps good relationships among the project stakeholders (Marzouk and Moamen, 2009), a vital condition to the successful completion of the project (Atkinson, 1999; Bourne and Walker, 2008). Furthermore, Spiess and Felding (2008) underline that conflicts of interest managed perfectly through a negotiation process. Moreover, the negotiation technique can resolve conflicts that associated with project’s objectives, scope, resource (human, financial) allocation, variation and change orders (APM, 2002). So, it is critical to study how a negotiation technique applies systematically in the context of the projects in order to provide guidance to the project stakeholders. Therefore, the existing models are analysed in the next paragraphs.

**Negotiation Model A: Principled Negotiation Process Model**

The Principled Negotiation Process Model was introduced at the Program of Harvard Negotiation Project (HNP) by Fisher, Ury and Patton in 1981. It is a widely accepted model in conflict resolution (Akdere, 2003) and has been applied to various negotiation activities (Turel and Yuan, 2010). According to Cleland (1998), Pinto (1998; 2000), Wiegers (2002), Meredith and Mantel (2009), this model can be adopted in the context of a project, as it serves project objectives via an honest relationship between stakeholders and mutually satisfactory solutions. This model can be developed through four stages:

1. Separate the people of the problem. Primarily, it is essential for the negotiators to concentrate on the real aspects of negotiation. They have to separate objective problem from emotions (egoism, anger, empathy). It is vital for the involved parties not to sentimentalize otherwise the real aspect of negotiation transferred into interpersonal conflict. So, parties must be concentrating on the real negotiating issues.
2 Focus on interests, not positions. Negotiation participants have to distinguish between interests and positions of the other parties. Position is the formal state of a negotiator over an issue, whereas interest underlies the position. Interest is the actual reason that one party has his position. Negotiator has to identify the interests of the other parties in order to understand their goals, expectations, needs and beliefs. Identification of interests gives a chance to the parties to invent mutual beneficiary outcomes in the negotiation process.

3 Invent options for mutual gain. Parties need to devote time to investigate all possible options and then choose these options with mutual gain that keep all of them satisfied. They have to participate in brainstorming sessions for generating new ideas that may come into better agreements. To better achieve this purpose, a positive climate between parties is crucial, according to Fisher et al., and therefore shared interests have to be promoted.

4 Insist on using objective criteria. Finally, parties have to decide about the objective criteria according to the mutual gain that keep all of them satisfied. These criteria must be relied on standards of reciprocity, fairness, efficiency or scientific merit. Additionally, Fisher et al. (1991) introduce the term of BATNA (Best Alternative to a Negotiated Agreement) in the process of negotiation. BATNA is the alternative choice of action for the party if the proposed agreement is unsatisfactory; otherwise no agreement is obtained. The negotiation’s outcome it strongly depends on parties’ BATNA. The better a party’s BATNA is the greater power has. Prior to the start of negotiations, each party has to ascertain his BATNA and make a guess for the others parties’ BATNA. If a party wants to accomplish a better agreement, he should try to improve his BATNA.

In conclusion, the principled negotiation process model focuses on five determinants in the negotiation process: negotiating issues, parties’ interests and positions, possible options, mutual options, shared interests, objective criteria and BATNA.

Negotiation Model B: Stepping through principled negotiation

Hartley (2005) based on the fundamental principles of principled negotiation model and proposes particular steps to assist the interaction of project stakeholders in their conflicts. Hartley’s approach is analysed in seven steps:

1 Communicate stated and unstated positions. Initially, Hartley states that usually communication among project stakeholders is not efficient. By this observation, he underlines the fact that stakeholders do not filter the expressly stated positions and thus they do not recognize the unstated positions of the parties. Unstated positions are the true parties’ position and demonstrate their interests. So, it is critical for the negotiators to identify the interests of the other party through open, honest and transparent communication. Communication based on interests offers possibilities for better agreements in the negotiation process.

2 Identify every single issue. At this step, it is vital to record all the issues which have to be negotiated. Sometimes, a negotiating issue (primary issue) may require negotiation for other issues (secondary issues), e.g. when project client and contractor negotiate a cutback in budget, they have also to negotiate about
changes on scheduling or modification on quality characteristics. Therefore, the determination of all possible issues is essential.

3 Signoff on the “common ground”. An unattended matter in a negotiation process is the shared interests of the parties. Even though, parties use to discuss about their conflicting interests in a negotiation situation, there is also exist a “common ground”. Common ground can be conceived as the shared parties’ interests, e.g. agreed delivery dates, documentation, successes on past negotiations or even their interdependence relationship to reach an agreement. Focuses on their common ground, parties come closer around the negotiation table, intentions are rebated and better outcomes may result.

4 Work on the issues (and not the people). This step is similar with the first one of principled negotiation process model. Parties need to distinguish the real issues of negotiation from human factors. They have to deal with negotiating issues without personalize situations, get upset or being angry and selfish.

5 Reach agreement with conditional concessions. In a negotiating situation, if parties want to reach an agreement, they have to make concessions. Nevertheless, concessions have their risk. In fact, parties need to ensure that conditional concessions. So, the negotiator has to delineate the conditions under which the concession is acceptable.

6 Best Alternative to a Negotiated Agreement (BATNA). Hartley is fully complied with the element of BATNA. Practically, BATNA marks a bottom line that parties must stop negotiating and therefore not accept any solution under their BATNA.

7 Document the agreement. Finally, Hartley insist on the documentation of the agreement. Documentation ensures that all parties are committed to the terms of the agreement.

In conclusion, Hartley’s proposed steps in the negotiation process highlights seven determinants: parties’ interests and positions, negotiating issues, common ground, conditional concessions, BATNA and documentation.

Negotiation Model C: Possible steps in a negotiation process by International Project Management Association (IPMA)

The International Project Management Association (2006) refers synoptically to the possible steps of a negotiation in the context of projects. These steps are:

1 Primarily, parties should determine both the ideal outcome from the negotiation and the minimum acceptable solution (BATNA).
2 Afterwards, they have to choose their negotiation strategy, either an integrative or a distributive approach.
3 At this step, they identify negotiating issues and analyse relative information about the issues.
4 Next, parties record all possible options that provide solution to the negotiating issues.
5 Then, they reveal the options with mutual gains that can conclude to win-win negotiation.
6 A positive relationship must be kept among parties; therefore shared interests should be highlighted.
7 Until crafting an agreement, above steps may be repeated.
8 At the end, documentation is required in order to provide lessons learned to future negotiation of the same or other projects.
IPMA mentions that above steps should be conducted according to the parties’ interest and positions. Conclusively, IPMA’s approach takes into account the following determinants: ideal outcome, BATNA, negotiation strategy (integrative or distributive), negotiating issues, possible options, options with mutual gains, shared interests, documentation, parties’ interests and positions.

**Negotiation Model D: Negotiation Analysis Approach (NAA)**

Murtoaro and Kujala (2007) apply this particular theory of negotiations to the context of project negotiations. NAA is a descriptive and explanatory model that offers a systematic, logically and theoretically well-founded approach to the study of project negotiations. In NAA the following three stages are recognized:

1. The first stage of this model relates to the pre-negotiation phase. Primarily at this stage are determined the negotiating issues and parties’ interests. Afterwards, are developed all the options (contract set) that addresses the issues. However, from contract set must be extracted these options which do not satisfy the parties’ BATNA condition. Therefore, the contract set and BATNA formalize the total possible solutions (Zone Of Possible Agreement - ZOPA).
2. The second stage refers to the negotiation strategy and represents the real phase of negotiation. Parties set up the objectives that they want to accomplish at the end of the negotiation and specify if they are going to adopt either an integrative or distributive approach.
3. The final stage concerns the obtained agreement. At this phase parties evaluate the possible solutions according to objective criteria which relate to the efficiency and fairness of the option. An option is efficient if there is no other option that makes some parties better off while making no party worse off. As well, an option is fair when it offers equal proportion of potential gains to each party. Finally, the chosen solution, the negotiated agreement, is documented.

Summarizing, the NAA demonstrates nine determinants in a negotiation process: negotiating issues, parties’ interests, options (contract set), BATNA, ZOPA, objectives, negotiation strategy (integrative or distributive), objective criteria and documentation.

**Negotiation Model E: Attitude-based Strategic Negotiation**

Yousefi et al. (2010) presents a negotiating methodology to managing conflicts of project stakeholders which taking into accounts the psychological factors during a negotiation. They apply this methodology to projects with the assistance of Graph Model for Conflict Resolution (GMCR). GMCR develops into the next key stages for each negotiating issue:

1. Initially, the parties’ positions are determined.
2. Afterwards, the possible options are analysed and the feasible options are recorded.
3. Then, options are ranked according to parties’ preferences.
4. At this stage, analysis of the possible parties’ attitudes (positive negative or neutral) is carried out. Each possible attitude case encompasses the attitude of each party against the others. At the end, the relevant attitude cases are recorded and a stability
analysis is conducted in order to demonstrate the possible negotiation outcomes to each attitude case.

Consequently, the attitude-base strategic negotiation appreciates six determinants: negotiating issues, parties’ positions, feasible options, parties’ preferences for the feasible options and their attitudes against the other parties.

A Comparison of the Negotiation Models

In the following Table 1 the above models are summarized and compared, while some common determinants are being extracted and highlighted. The discovered determinants demonstrate each model’s principles, priorities, objectives and outcomes. Table’s columns refer to the negotiation models, while table’s rows concern the determinants.

Table 1: A Comparison of the Negotiation Models

<table>
<thead>
<tr>
<th>Determinants</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td>1. Negotiating issues</td>
<td>✓</td>
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<td>2. Parties’ positions</td>
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<td>3. Parties’ interests</td>
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<td>4. Possible options</td>
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<td>5. Feasible options / ZOPA</td>
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<td>✓</td>
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<td>6. Mutual options</td>
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<td>7. Objective Criteria</td>
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<td>8. Conditional concessions</td>
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<td>9. Parties preferences for feasible options</td>
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<td>10. BATNA</td>
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<tr>
<td>11. Ideal outcome</td>
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<td>12. Overall objectives</td>
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<td>13. Common ground / Shared interests</td>
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<tr>
<td>14. Negotiation strategy (integrative or distributive behaviour)</td>
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<td>✓</td>
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<tr>
<td>15. Parties’ attitude against other parties</td>
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<td>16. Documentation</td>
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</table>

Note: Determinant 5 encompass feasible options of model E and ZOPA determinant of model D due to they used to describe the same issue. Likewise for the determinant No 13.

Conclusions and future thoughts

In this paper a literature review of the existing negotiation models was performed. The presented models were identified for their suitability to manage conflicts, which occur during a project
lifecycle. Table 1 summarizes the identified models and it recognizes some common determinants among the negotiation models. Particularly:

- Negotiating issues is the determinant that all models mention.
- Parties’ positions, parties’ interests, possible options and BATNA are the determinants that exist at more important percentage after determinant 1. Nevertheless, one model may not include all this determinants. Parties’ positions are not referred specifically at model D but probably may be evaluated indirectly through parties’ interests. In a similar manner, parties’ interests and BATNA condition are not mentioned in model E. However, model E examines parties’ preferences among feasible solution and this determinant could reflect determinants 3 and 10.
- Common ground or shared interests and documentation are recorded in three of the models, which are not the same.
- Determinants 5, 6, 7 and 14 are recognized in a minor percentage whereas determinants 8, 9, 11, 12 and 15 have only been taken into account by one model.
- Perhaps determinants 4, 5, 6, 10 and 11 could be grouped into a more general determinant which will deal with the parties’ alternative choices.
- A potential degree of relevance exists between negotiation strategy (determinant 14) and parties’ attitude against the other parties (determinant 15). Negotiation strategy works on the behaviour (integrative/ cooperative or distributive/non-cooperative) that parties will adopt during the negotiation. On the other hand, determinant 15 examines if the negotiator has positive, negative or neutral attitude against other parties. This means that a positive attitude may conclude to cooperative behaviour and a negative attitude to non-cooperative behaviour. Therefore, determinants 14 and 15 may be considered as the two sides of the same coin.

Although the negotiation models do not recognize exactly the same determinants, common characteristics were observed. It is critical to notice that the uncommon determinants are not negatively associated; the implementation of one determinant does not exclude the implementation of another determinant. Indeed, they could be used supplementary in order to upgrade the negotiation process. The hypothesis to encompass in a common model all the above determinants, it would be a challenge. Of course, this orientation needs further study and research.

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References

Atkinson, R., 1999, “Project Management: cost, time and quality, two best guesses and a phenomenon, it’s time to accept other success criteria”, International Journal of Project Management, 17(6), pp. 337-342

Association for Project Management, 2002, Project Management Pathways, Association for Project Management


Pinto, J. K., 1998, power and Politics in Project Management, Project Management institute Headquarters


Spiess, W., and F. Felding, 2008, Conflict Prevention in Project Management: Strategies, Methods, Checklists and Case Studies, Springer-Verlag Berlin Heidelberg


