

## **Managing Disputes within Construction Consulting Contracts: A Study of Six Prevention/Resolution Alternatives<sup>1, 2</sup>**

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### **ABSTRACT**

The objective of this paper is double: on the one hand it identifies which kind of dispute prevention could be implemented to avoid disputes to occur in construction consulting contracts and, on the other hand, provides tools to solve them once they have occurred. To do so, we have assessed a set of six Feasible Prevention/Resolution alternatives quantitatively and qualitatively thanks to eight chosen Attributes. Thanks to this process we conclude that specific Prevention (examples are given in this paper) enables dispute inhibition and that Negotiation is the best solution to tackle disputes in construction consulting contracts once they occurred.

**Key Words:** Consulting Contracts, Consultant, Managing Disputes, Preventing Conflicts, Construction Projects, Construction Industry

### **INTRODUCTION**

According to Arcadis' *2017 Global Construction Disputes Report*, "both the time taken to resolve disputes and the global costs of disputes have decreased"<sup>3</sup> for a couple of years, but the overall trend is still slightly increasing. Moreover, the figures involved are still huge: "\$42.000.000 USD is the average cost of a dispute, 14 is the average number of months taken to resolve a dispute, \$2 billion USD is the highest value dispute handled"<sup>4</sup> – and those figures only concern the Arcadis NV Group. This highlights to what extent the issues regarding disputes in consulting contracts

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<sup>1</sup> Editor's note: This paper was prepared for the course "International Contract Management" facilitated by Dr Paul D. Giammalvo of PT Mitratata Citragraha, Jakarta, Indonesia as an Adjunct Professor under contract to SKEMA Business School for the program Master of Science in Project and Programme Management and Business Development. <http://www.skema.edu/programmes/masters-of-science>. For more information on this global program (Lille and Paris in France; Belo Horizonte in Brazil), contact Dr Paul Gardiner, Global Programme Director, at [paul.gardiner@skema.edu](mailto:paul.gardiner@skema.edu).

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<sup>3</sup> Arcadis, *Global Construction Disputes Report 2017: Avoiding The Same Pitfalls* Retrieved from <https://www.arcadis.com/en/united-states/our-perspectives/global-construction-disputes-report-avoiding-the-same-pitfalls/>

<sup>4</sup> Arcadis, *Global Construction Disputes Report 2017: Avoiding The Same Pitfalls* Retrieved from <https://www.arcadis.com/en/united-states/our-perspectives/global-construction-disputes-report-avoiding-the-same-pitfalls/>

linked to construction are massive. As construction projects are a typical example of what project management is: “The administration, supervision or executive function to plan, organize, coordinate, direct and control a proposed or planned undertaking to achieve a particular aim or objective within a specific time frame.”<sup>5</sup>, we will focus on issues regarding consulting contracts in the construction industry.

Why are those figures so important? The construction sector is based on projects involving many different actors such as owners, contractors, and consultants and various designing and building processes. Even if the relations between each kind of actors is basically defined - both the contractor and the consultant have a contractual relationship with the owner when contractors and consultants have only a functional relationship - the concentration of so different parties and work processes is so huge that conflicts are inevitable and have subsequent consequences on the construction projects. But what is exactly a conflict? A “Conflict is the struggle of conflicting ideas between two or more parties. Conflict involve the communication problems which may affect the relationship between two or more parties and impact on the effectiveness of the job of the project”<sup>6</sup>.

There are “two principal types of conflicts in a construction project: internal and external conflicts. External conflicts concern only outside stakeholders when internal conflicts are concerning inner participants of the project (owners, contractors, and consultants)”<sup>7</sup>. Actually, if we take a look at all the research papers dealing with this issue, it appears that consultants - mainly architects, structural engineers, and designers - are at the heart of the conflict process because they are a bridge between the owner’s idea of the project and its realization by the contractor, a truly conflictive position. Thus, the inability to manage this kind of conflicts can turn them quickly into disputes between the consultant and the other parties, and “Disputes are one of the main factors which prevent the successfully completion of the construction project”<sup>8</sup>. Such a result can have truly undesirable consequences for a construction project: delays, cost overruns, decreased productivity, impact on business relationships and so on. There are multiple and diverse root causes explaining conflicts and disputes.

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<sup>5</sup> Paul D Giammalvo, *Wideman Comparative Glossary of Project Management Terms*  
Retrieved from [http://www.maxwideman.com/pmglossary/PMG\\_P16.htm](http://www.maxwideman.com/pmglossary/PMG_P16.htm)

<sup>6</sup> Loke Yi San, *A study of causes and effect of conflict in construction industry*  
Retrieved from <http://umpir.ump.edu.my/id/eprint/8701/1/cd8461.pdf>

<sup>7</sup> Loke Yi San, *A study of causes and effect of conflict in construction industry*  
Retrieved from <http://umpir.ump.edu.my/id/eprint/8701/1/cd8461.pdf>

<sup>8</sup> Anita Rauzana, *Causes of Conflicts and Disputes in Construction Projects*  
Retrieved from <http://www.iosrjournals.org/iosr-jmce/papers/vol13-issue5/Version-6/F1305064448.pdf>

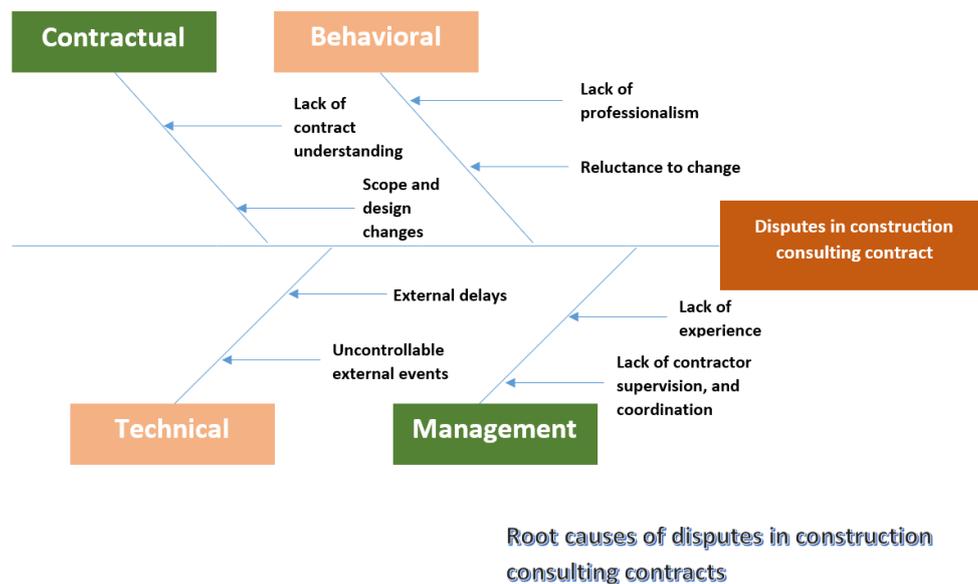


Figure 1- Root causes of disputes in construction contracts<sup>9</sup>

“Construction industry disputes taking longer to resolve”<sup>10</sup> is the title of an article from the Financial Times in 2013 to qualify the situation of disputes - disputes that have involved more than \$5 billion dollars all around the world this year- in the construction industry only few years ago. Since then, the situation is quite dangerous: after 3 years of consecutive bad news, the situation has stabilized. But for how much time? Thus, this situation must be tackled as efficiently as possible. Whether it is the type of management used by the parties, the behavior of consultants, or the contractual and technical specification of consulting contracts, those aspects all have an influence on the occurrence of disputes.

Knowing that the most important thing to do to resolve disputes is to avoid their occurrence, this paper will try to explicit what kind of conflict prevention could be taken to avoid disputes in construction consulting contracts, aiming at lowering their number and their intensity. In a second part, this paper will explicit what can be done once disputes have occurred to reduce their impact on the construction project itself, in terms of time, budget, quality and relationship with partners.

## METHODOLOGY

### Step 1

As the construction projects are more and more complex - as this statement could deserve a research paper for itself, we will admit it based on the work of Hannah Wood and Kassim Gidado

<sup>9</sup> By Author

<sup>10</sup> Financial Times, *Construction industry disputes taking longer to resolve*  
Retrieved from <https://www.ft.com/content/e5e125dc-bede-11e2-a9d4-00144feab7de>

whose conclusion is “The application of complexity science to the construction industry is not widely researched, however, evidence has been found that the process of construction can in itself be thought of as a complex system »<sup>11</sup> - and are involving an increasing number of participants, the probability that disputes occur is more and more important – especially between the contractor and construction consultants. Therefore, it is really important to understand how we can prevent disputes and what are the possibilities to tackle them once they have occurred. Consequently, what are the feasible alternatives that can be implemented to sidestep disputes in construction consulting contracts?

## Step 2

Six feasible alternatives to prevent and solve disputes in construction consulting contracts have been identified:

1. **Prevention**<sup>12</sup>: This alternative consists in trying to anticipate the dispute in order to avoid it. They are many ways to do it: “creating good communication among project teams, creating a clear mechanism, creating management and good supervision”<sup>13</sup>.
2. **Negotiation**<sup>14</sup>: This second step response allows both the project owner and the consultant to explain what their main disagreements are, and to find a common ground before an escalation of the issue. It can take the shape of a negotiation clause in the contract which specifies that the “parties will attempt to reach a just and satisfactory resolution between themselves before moving on to other means”<sup>15</sup>
3. **Mediation/Expert determination**<sup>16</sup>: This alternative is a non-binding one, either the owner or the consultant can propose a mediation thanks to a third party, this neutral party “encourages those in the dispute to talk to each other about the issues”<sup>17</sup>, can give

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<sup>11</sup> Hannah Wood and Kassim Gidado, *Project Complexity in Construction*  
Retrieved from <https://core.ac.uk/download/pdf/9552740.pdf>

<sup>12</sup> *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*  
Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>13</sup> Anita Rauzana, *Causes of Conflicts and Disputes in Construction Projects*  
Retrieved from <http://www.iosrjournals.org/iosr-jmce/papers/vol13-issue5/Version-6/F1305064448.pdf>

<sup>14</sup> *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*  
Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>15</sup> *Six Tips for Successfully Resolving Construction Disputes*  
Retrieved from <http://constructionexec.com/article/six-tips-for-successfully-resolving-construction-disputes>

<sup>16</sup> *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*  
Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>17</sup> *Resolving a dispute – What is Mediation?*

advice but is not a decision-maker. In the construction industry, this third party should be composed by a college of experts “used to resolve disputes of a specialist nature”<sup>18</sup>.

4. **Adjudication**<sup>19</sup>: The adjudication is an “interim-binding”<sup>20</sup> alternative which means it is a binding process until a legal proceeding occurs. It is a specificity of construction contracts and “is often described as a “pay first, argue later” mechanism”<sup>21</sup>. When the mediation process aims at giving advice to resolve a dispute, the adjudication one “give a decision”<sup>22</sup>.
5. **Arbitration**<sup>23</sup>: This alternative is a private legally-binding process. Again, a neutral third-party is at the heart of the situation. “The arbitrator considers documents and facts that concern the situation and can make a decision that favors one side if the parties fail to achieve consensus”<sup>24</sup>. The decision can’t be cancelled by law courts, except in some cases.
6. **Litigation**<sup>25</sup>: “Litigation involves a trial and is legally binding and enforceable”<sup>26</sup>. It consists in going into court.

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Retrieved from <https://www.resolution.institute/dispute-resolution/mediation>

<sup>18</sup> *Six Tips for Successfully Resolving Construction Disputes*; Retrieved from <http://constructionexec.com/article/six-tips-for-successfully-resolving-construction-disputes>

<sup>19</sup> *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*; Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>20</sup> Thomson Reuters Practical Law, *Adjudication: a quick guide*  
Retrieved from [https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&comp=pluk&bhcp=1](https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=(sc.Default)&firstPage=true&comp=pluk&bhcp=1)

<sup>21</sup> Thomson Reuters Practical Law, *Adjudication: a quick guide*; Retrieved from [https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&comp=pluk&bhcp=1](https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=(sc.Default)&firstPage=true&comp=pluk&bhcp=1)

<sup>22</sup> *Six Tips for Successfully Resolving Construction Disputes*; Retrieved from <http://constructionexec.com/article/six-tips-for-successfully-resolving-construction-disputes>

<sup>23</sup> *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*; Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>24</sup> Thomson Reuters Practical Law, *Adjudication: a quick guide*; Retrieved from [https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&comp=pluk&bhcp=1](https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=(sc.Default)&firstPage=true&comp=pluk&bhcp=1)

<sup>25</sup> *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*; Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>26</sup> Thomson Reuters Practical Law, *Adjudication: a quick guide* Retrieved from [https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&comp=pluk&bhcp=1](https://uk.practicallaw.thomsonreuters.com/8-381-7429?transitionType=Default&contextData=(sc.Default)&firstPage=true&comp=pluk&bhcp=1)

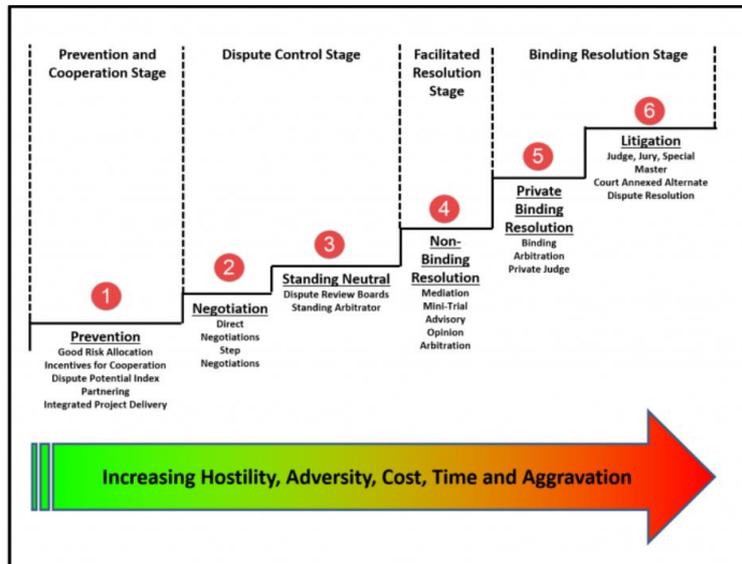


Figure 2 - Illustrating the Escalation Steps in the ADR Process<sup>27</sup>

To assess and measure those feasible alternatives we need some attributes that will help us to compare and to rank from the best feasible alternative to the worst. This list of attributes must refer to what both project owners and construction consultants want when a dispute occurs.

- **Cost<sup>28</sup>**: Obviously, the main issue coming out of disputes is the cost they represent. In the construction industry it represents huge figures: “\$42.000.000 USD is the average cost of a dispute”<sup>29</sup>. The less expensive is an attribute, the better it is for both the owner and the consultants. Therefore, this attribute must be considered when assessing the alternatives.
- **Duration<sup>30</sup>**: Delays are a usual pitfall in construction contracts. It has huge consequences on the owner, the contractor and the consultant, and they are often caused by disputes. Thus, the duration of each process should be evaluated.

<sup>27</sup> Adapted from The Handbook of Conflict Resolution: Theory and Practice 3rd Edition, 2014, Coleman, Deutsch & Marcus; Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

<sup>28</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/1>

<sup>29</sup> Arcadis, *Global Construction Disputes Report 2017: Avoiding The Same Pitfalls*; Retrieved from <https://www.arcadis.com/en/united-states/our-perspectives/global-construction-disputes-report-avoiding-the-same-pitfalls/#>

<sup>30</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/1>

- **The ease of implementation**<sup>31</sup>: The complexity of implementing the attribute is very important. As the construction industry is already complex, it does not need to implement even more complex tools to resolve/prevent the dispute. The easier, the better.
- **Sustainability**<sup>32</sup>: Does the attribute give a long-term response to disputes with no risk of repetition, or just solve it in the moment?
- **Effectiveness**<sup>33</sup>: The feasible attributes must be as effective as possible. Which means once an agreement has been found, it is not cancelled for another type of preventing/resolving dispute methodology.
- **Absence of appeal**<sup>34</sup>: Some feasible alternatives can have one, two or zero level of appeal. This is an important criterion to consider when assessing alternatives.
- **Neutrality and competency**<sup>35</sup>: In some countries, especially federal ones like the USA, parties may don't want to have their dispute settled in a state that is not completely neutral or not competent enough to rule a decision.
- **Confidentiality**<sup>36</sup>: The feasible attribute should not be spread all over the medias and so on, because it could have an impact on both societies' reputation.

To choose the attributes we have mainly used Proskauer research on *International Litigation and Arbitration, Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*. But we have excluded some attributes that are not relevant for our paper:

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<sup>31</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/I>

<sup>32</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/I>

<sup>33</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/I>

<sup>34</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/I>

<sup>35</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/I>

<sup>36</sup> Proskauer on International Litigation and Arbitration, *Managing, Resolving, and Avoiding Cross-Border Business or Regulatory Disputes*; Retrieved from <https://www.proskauerguide.com/arbitration/19/I>

- **Limited Discovery:** As the term of Discovery has various meanings from one country to another (not the same meaning at all in France than in the USA for instance), and as we are not focusing on one specific country with this research paper, this subjective criterion would not be relevant to compare our international suitable feasible alternatives.
- **Potential need for court intervention:** This attribute has been merged with “Absence of Appeal” because we have considered, specifically in our case, that an absence of appeal includes the impossibility to use any other feasible alternative once a first one has been used (like court intervention for legally-binding solutions).
- **Arbitrators’ Inability to Consolidate Actions or Join Third Parties:** This attribute is only relevant for arbitrations; therefore, we are not using an attribute which would give important information only for one alternative and for none of the others. To sum up, this attribute is too specific for our case.
- **Ability to Select Place and Language of the Arbitration:** This attribute has been merged with “neutrality and competency” as it also refers to the ability of a party to choose a “neutral legal ground”.

### Step 3

Now we need to identify which attributes from step 2 are the more important. In order to do so, we will use a non-compensatory model based on a disjunctive reasoning. In details, “we take a look at all the attributes and conduct a Pair-Wise comparison to determine which attributes are the most important by asking “which is more important?” and we give a score of 1 to the winning option and a score of 0 to the losing option.”<sup>37</sup>

Attributes	Effectiveness	Sustainability	Ease of implementation	Duration	Cost	Absence of appeal	Neutrality and competency	Confidentiality	Ordinal ranking
Cost	1	1	1	1	X	1	1	1	7
Duration	1	1	1	X	0	1	1	1	6
Ease of implementation	0	0	X	0	0	1	0	0	1
Sustainability	0	X	1	0	0	1	1	1	4
Effectiveness	X	1	1	0	0	1	1	1	5

<sup>37</sup> Planning Planet, *GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR)*; Retrieved from <http://www.planningplanet.com/guild/gpccar/managing-change-the-owners-perspective>

Absence of appeal	0	0	0	0	0	X	0	0	0
Neutrality and competency	0	0	1	0	0	1	X	0	2
Confidentiality	0	0	1	0	0	1	1	X	3

**Table 1 – Matrix Analysis of the Attributes<sup>38</sup>**

Thanks to this method we have identified that the most important attribute is the cost of the alternative, followed by the duration taken by the alternative, its effectiveness, its sustainability, the confidentiality, neutrality, ease of implementation and finally the less important one is the absence of appeal.

#### Step 4

Now that we have identified the most important attributes, we need to use a multi-attribute decision making model (qualitative analysis) in order to compare our feasible alternatives thanks to those attributes. The result of this process will give us our best possible alternative.

Here is the caption we will use:

- Red** → bad score
- Orange** → medium score
- Green** → good score

	Prevention	Negotiation	Mediation/expert determination	Adjudication	Arbitration	Litigation
Cost	Low	Low	Medium	Medium	High	High
Duration	Short	Medium	Medium	Long	Long	Long
Ease of implementation	Easy	Easy	Easy	Medium	Hard	Hard
Sustainability	Good	Good	Fair	Fair	Bad	Bad
Effectiveness	Good	Good	Bad	Fair	Good	Good
Absence of appeal	Good	Good	Medium	Medium	Good	Low
Neutrality and competency	Maximum	Maximum	Maximum	Medium	Minimum	Minimum
Confidentiality	Maximum	Maximum	Medium	Medium	Minimum	minimum

**Table 2 – Matrix analysis of the Feasible Alternatives<sup>39</sup>**

<sup>38</sup> By Author

<sup>39</sup> By Author

Finally, we are going to make a relative weighting of those attributes in order to have a quantitative comparison:

	Prevention	Negotiation	Mediation /expert determination	Adjudication	Arbitration	Litigation
Cost	1	1	0.75	0.5	0	0
Duration	1	0.5	0.2	0	0	0
Ease of implementation	1	1	1	0.3	0	0
Sustainability	1	1	0.5	0.3	0	0
Effectiveness	1	1	0	0.75	1	1
Absence of appeal	1	1	0.2	0.2	1	0
Neutrality and competency	1	1	1	0.75	0	0
Confidentiality	1	1	0.5	0.3	0	0
<b>Total</b>	<b>8</b>	<b>7.5</b>	<b>3.15</b>	<b>3.1</b>	<b>2</b>	<b>1</b>

**Table 3 – Matrix analysis of the weighted Feasible Alternatives<sup>40</sup>**

Thanks to this matrix we have evaluated that a feasible alternative scoring under 3.15 is not adapted to solve the problem we identified. Arbitration and Litigation only have a high score for the effectiveness attribute because they are legally binding processes but are scoring too low for the others (except absence of appeal for Arbitration), when Adjudication take too much time to be fully implemented. Therefore, we can eliminate Adjudication, Arbitration and Litigation from our feasible alternatives and keep Prevention, Negotiation and Mediation/expert determination.

<sup>40</sup> By Author

## FINDINGS

### Step 5

The aim of this step is to summarize what we have done in the steps 3 and 4 thanks to another technique called Additive Weighting Technique<sup>41</sup> that will allow us to rank the Alternatives by comparing the weighted attributes and feasible alternatives.

Thanks to step 3 and 4, we have now eliminated Adjudication, Arbitration and Litigation as worth it solutions, then we will focus on the others left: Prevention, Negotiation and Mediation/expert determination.

Attributes	Step 1	Step 2			Prevention		Negotiation		Mediation/expert determination	
	Relative Ranking	Normalized Weight (A)			(B)	(A)*(B)	(D)	(A)*(D)	(F)	(A)*(F)
Cost	7	1/4	=	0,25	1	0,25	1	0,25	0,75	0,19
Duration	6	3/14	=	0,21	1	0,21	0,5	0,11	0,2	0,04
Ease of Implementation	1	1/28	=	0,04	1	0,04	1	0,04	1	0,04
Sustainability	4	1/7	=	0,14	1	0,14	1	0,14	0,5	0,07
Effectiveness	5	5/28	=	0,18	1	0,18	1	0,18	0	0,00
Absence of appeal	0	0	=	0,00	1	0,00	1	0,00	0,2	0,00
Neutrality and competency	2	1/14	=	0,07	1	0,07	1	0,07	1	0,07
Confidentiality	3	3/28	=	0,11	1	0,11	1	0,11	0,5	0,05
SUM	28		SUM	1	SUM	1,00	SUM	0,89	SUM	0,46

**Table 4 - Additive Weighting Matrix<sup>42</sup>**

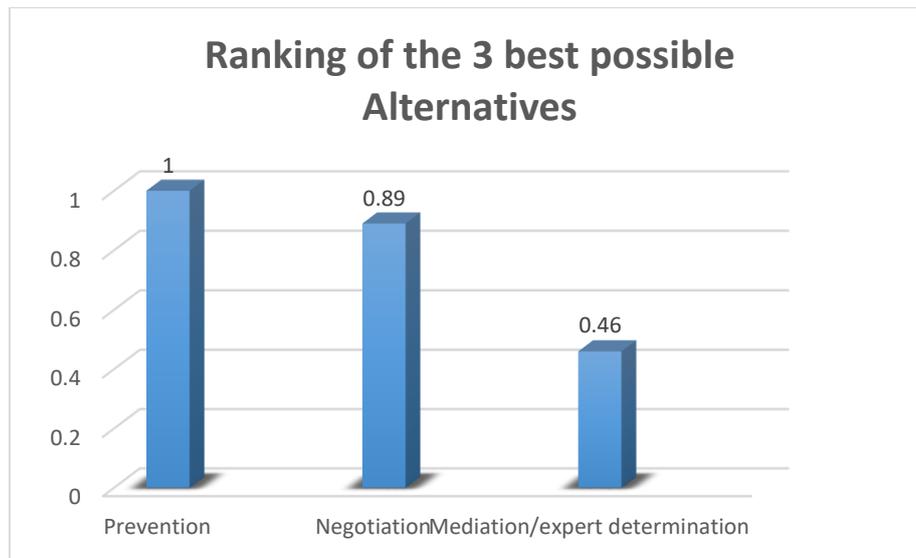
We have now confirmed that prevention and negotiation – respectively scoring 1,00 and 0,89 - are the potential two best feasible alternatives for our problem. In the meantime, Mediation/expert determination is scoring quite low in comparison to the two other solutions.

### Step 6

We will now rank the alternatives from the best one to the worst one.

<sup>41</sup> GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR), Retrieved from <http://www.planningplanet.com/guild/gpccar/managing-change-the-owners-perspective>

<sup>42</sup> By Author



Graph 1 – Ranking of the 3 best possible Alternatives<sup>43</sup>

Thanks to what has been done in step 5, we can now quantify – thanks to a ratio scale, which Alternative(s) would be the best to be implemented.

A score of 1 is considered to be the best possible score, when each score under 1 “requires some compromises and trade-off”<sup>44</sup>. If we refer to a classic grading system, Prevention would get an “A+”, Negotiation a “B+”, and finally Mediation/expert determination would be a “Failure”.

Furthermore, the prevention solution is a better choice than Litigation by **800%** ( $(8/1) \cdot 100$ ) and then Mediation/expert determination by **254%** ( $(8/3,15) \cdot 100$ ). Thus, this last alternative appears to be not sufficient enough to be implemented to resolve disputes in construction consulting contracts.

Therefore, the best two feasible alternatives are Prevention and Negotiation. However, they should not exactly be used in the same way.

On the one hand, Prevention is about preventing the dispute to occur by “creating good communication among project teams, creating a clear mechanism, creating management and good supervision”<sup>45</sup> within the relations between contractors and construction consultants. Finally, as we have seen in the Table 1, this is by far the cheapest, quickest and the most efficient way to avoid disputes -which are the most important attributes we identified.

<sup>43</sup> By Author

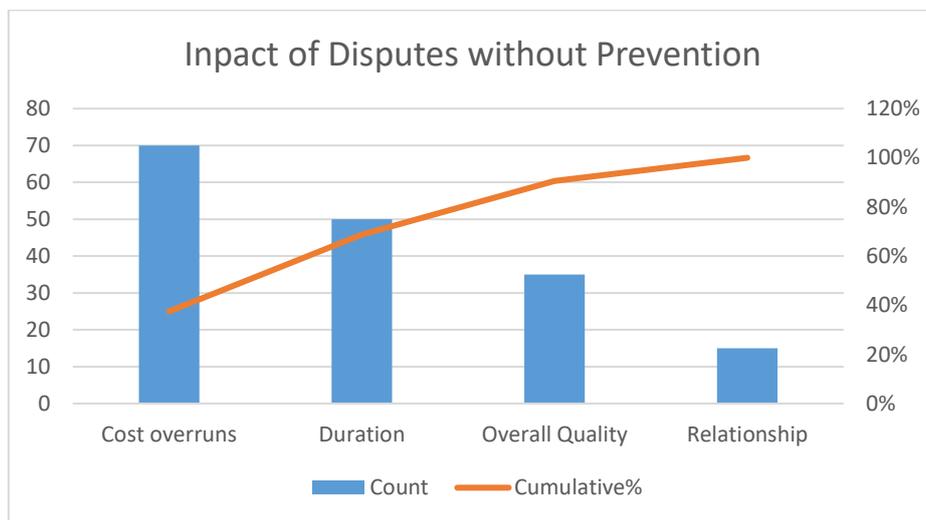
<sup>44</sup> GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR); Retrieved from <http://www.planningplanet.com/guild/gpccar/managing-change-the-owners-perspective>

<sup>45</sup> GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR); Retrieved from <http://www.planningplanet.com/guild/gpccar/formal-disputes-resolution>

On the other hand, the Negotiation alternative should be used once the dispute has occurred. It may take the shape of a negotiation clause in the contract which specifies that the “parties will attempt to reach a just and satisfactory resolution between themselves before moving on to other means”<sup>46</sup>. Once again, not to mention that its cost, duration and effectiveness are the best among all the other feasible alternatives.

### Step 7

For the final step, now that we have identified the best solution – Prevention- to our problem, we need to conduct an analysis in order to see if our recommendation was the good one or not. As “a Pareto Analysis is employed by business managers in all industries who try to determine which issues are causing the most problems within their departments, organizations, or sectors.”<sup>47</sup>, we will use this technique to identify the effects of implementing Prevention on Time, Cost, Quality and Relationship with partners.

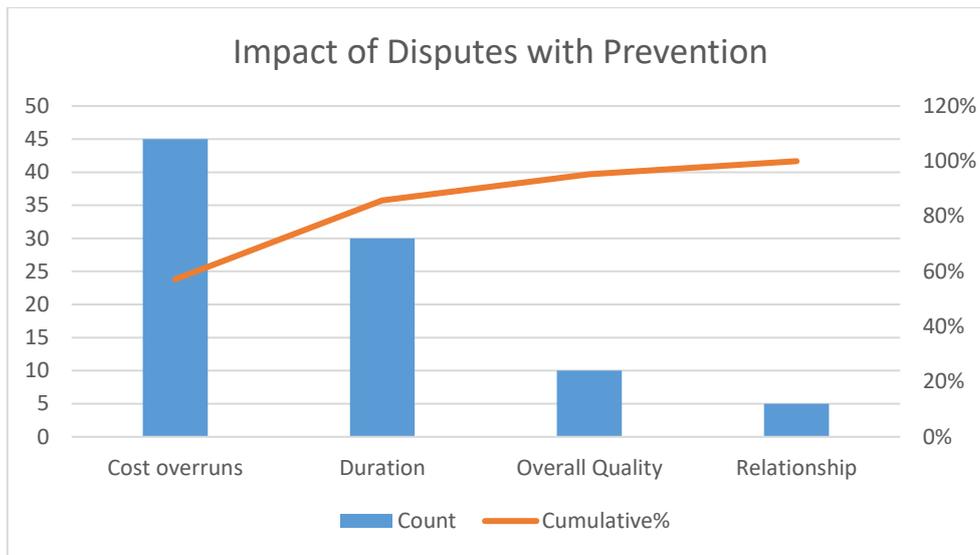


Graph 4 – Impact of Disputes without Prevention<sup>48</sup>

<sup>46</sup> Six Tips for Successfully Resolving Construction Disputes; Retrieved from <http://constructionexec.com/article/six-tips-for-successfully-resolving-construction-disputes>

<sup>47</sup> Investopedia – Pareto Analysis; Retrieved from <https://www.investopedia.com/terms/p/pareto-analysis.asp>

<sup>48</sup> By Author



**Graph 3 – Impact of Disputes with Prevention<sup>49</sup>**

As we can see when comparing those two graphs, Prevention has a very high impact on the consequences of disputes on the cost overruns, the duration of the project, the overall quality and the relationship with partners. The impact is the highest with the cost overruns (minus 25) and with the overall quality (minus 25).

## CONCLUSION

Initially, this paper aimed at answering two main questions:

1. What kind of conflict prevention could be taken to avoid disputes in construction consulting contracts?
2. What can be done once disputes have occurred to reduce their impact on the construction project itself, in terms of time, budget, quality and relationship with partners?

Throughout this paper we have identified six feasible alternatives aiming at preventing/resolving disputes in construction consulting contracts which are: Prevention, Negotiation, Mediation/expert determination, Adjudication, Arbitration and Litigation. Those potential solutions have been assessed thanks to different qualitative and quantitative techniques using eight attributes. Through this process, three alternatives have been eliminated and another (Mediation/expert determination) has been rejected afterwards thanks to an additive weighting matrix.

Finally, two feasible alternatives have been chosen to prevent/tackle disputes in construction consulting contracts: Prevention which consists in trying to anticipate the dispute in order to

<sup>49</sup> By Author

avoid it, with many ways to do it: “creating good communication among project teams, creating a clear mechanism, creating management and good supervision”<sup>50</sup>. But also, Negotiation once the dispute has occurred as this is the less harmful tool and the most effective alternative like we have established.

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<sup>50</sup> Anita Rauzana, *Causes of Conflicts and Disputes in Construction Projects*; Retrieved from <http://www.iosrjournals.org/iosr-jmce/papers/vol13-issue5/Version-6/F1305064448.pdf>

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