

Ensuring prompt payments or recovering his money: How contractors and subcontractors from the construction industry may tackle these prominent issues^{1, 2}

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ABSTRACT

This paper has been conducted through the course titled “International Project Contracts”, for the Master of Science “Programme and Project Management and Business development” in Skema Business School.

The designation of prompt payment clauses in the public debate has been brought to the fore together with the repeated occurrence of late payment situation or worth, absence of payment, in the construction industry. In this context, this paper tries to stress out the factors that may encourage their appearances and so presents the different tools that can minimize the repetitiveness of these tricky situations for contractors or sub-contractors. Throughout the completion of this paper, two best solutions have been highlighted as being the most effective ways to prevent late payment situations from happening and to remedy the absence of payment. In order to conduct this whole research, fishbone diagram, non-compensatory model, matrix analyses, disjunctive reasoning, charts and Pareto analysis have been performed.

This Paper concludes on how effective are the use of Late Payment Fee and Payment Bond to resolve the issues mentioned above. However, this paper also concludes that the kind of tools needing to be used, depends also on the situation the contractor or subcontractor is, at a given time.

Keywords: Construction industry, Owner, Contractor, Sub-Contractor, Prompt Payment, Mechanics Lien, Payment Bond, Payment provisions, Late payment Fee

¹ 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.

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INTRODUCTION

“0,080 baked bricks, property of Samas, are against the account of Samas-zer-iqisa son of Erbaya; he will deliver them at the end of Sabattu, day 7, year 1, Nebuchadnezzar king of Babylon.”³ Construction contracts have been existing for hundreds and hundreds of years now. This exhaustive construction contract for the supply of bricks in Babylon dated from 605 BC, highlights, how construction contracts have changed since then. Nowadays, the construction sector is widely contractual. Construction contracts have become significantly more specifics, with lots of clauses, conditions and terms.

Why does the construction industry require very specific contracts? The construction industry is very complex. As the matter of fact, the construction industry is a specific structure of contracts and sub-contracts, setting it apart from other industries. This industry involved lots of different people. The owner selects a General Contractor to build the project, then, the Owner can engage a specialized project manager. The project manager is the “person responsible for leading, directing and managing the project and project team to deliver the project deliverables to an agree time, cost and quality/performance.”⁴ Thus, he has a great responsibility in the follow up of the construction project. Finally, once the contractor is selected, he has to enter into sub-contracts with Trade Contractors for the various segments of the construction project. Sub-contractors can also further sub-contracts to other trade contractors. The high complexity of the construction industry is not without consequences in business management.

Actually, one of the major issues in this industry, is the late payment. It has dramatic effects on the whole pyramid chain. Therefore, “Prompt Payment laws” have been enacted by States and Government in order to establish norms for payment schedule in the construction industry. These are legal recourse against owners and contractors who fail to meet the payment terms specified in the contract. However, even if there are prompt payment clauses, recent studies have pointed out that over 90 percent⁵ of contractors have troubles obtaining the retainage after a job is completed. Consequently, late payment and in the worst case, outright default, have cascading effects down the rest of the contracting and sub-contracting chain. They can result in freezing cash flows across an entire project. There are multiple causes explaining late payment or worst, outright default in construction contract.

³ The contractor’s Guide to getting paid, A prime for contractors, subcontractors and suppliers, retrieved from <https://www.lienitnow.com/the-ultimate-guide-for-getting-paid-on-construction-projects>

⁴ Project Manager, Harpham, A., Chairman, APM Group, UK, 2002. Retrieved from http://www.maxwideman.com/pmglossary/PMG_P16.htm - Project Manager

⁵ Karina Fabian, Contractor’s guide to getting paid, retrieved from <https://www.business.com/articles/contractor-guide-to-payment/>

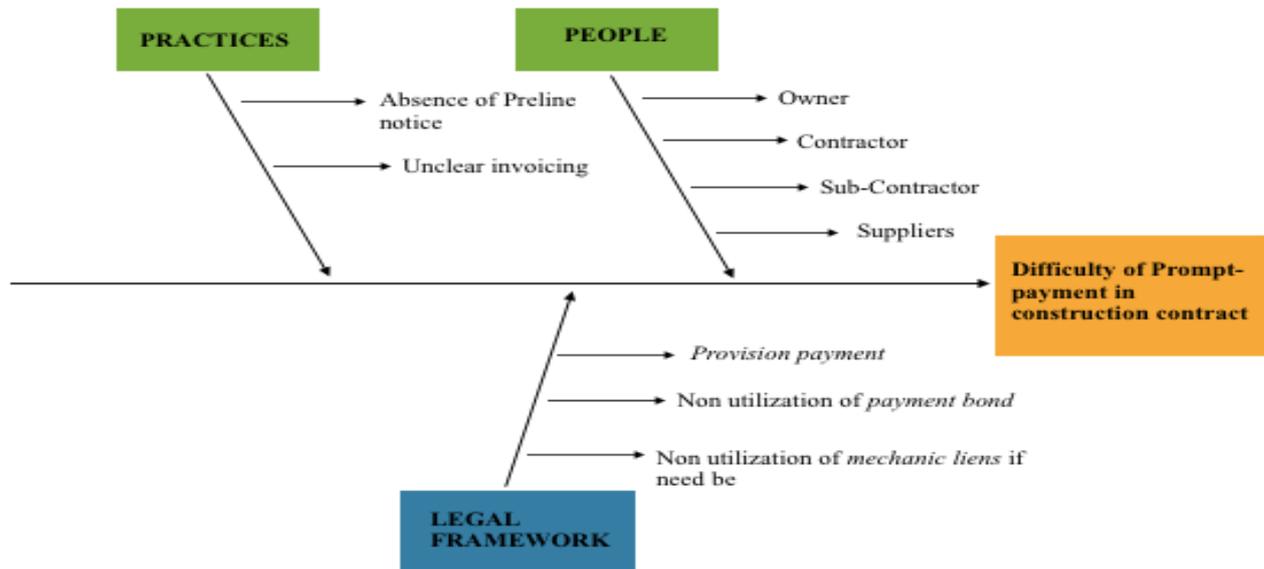


Figure 1: Root cause analysis⁶

“Big companies pay later squeezing their suppliers”⁷, “Small Firms’ Big Customers Are Slow to Pay”⁸: these are titles that dominated the headlines in the New York Times and The Wall Street Journal, few years ago. Unfortunately, these headlines are still very accurate. It has become too frequent for owners or contractors to not perform payment in a timely manner, so to stretch the working capital of other companies. This problem must be tackle and the prompt payment clauses in construction contracts must be fulfilled. There are different actions that may be undertaken by contractors or subcontractors to avoid being in this situation. The type of people you conclude a contract with, the method you use to prevent these situations from happening but also the legal framework you rely on, influence the occurrence of late payments in your business activities.

This paper will help us to discover and to understand the different prevention steps to follow so to not cope with late payment from the owner or contractor, in construction industry. For instance, a study showed that nearly 50 percent⁹ of invoice disputes were due to inaccuracies in

⁶ By Author

⁷ Stephen Brock, Big companies pay later, squeezing their suppliers”. Retrieved from <https://www.nytimes.com/2015/04/07/business/big-companies-pay-later-squeezing-their-suppliers.html>

⁸ Angus Loten, Small Firm’s Big Customers Are Slow to Pay. Retrieved from <https://www.wsj.com/articles/SB10001424052702303296604577450561434496668>

⁹ Karina Fabian, Contractor’s guide to getting paid. Retrieved from <https://www.business.com/articles/contractor-guide-to-payment/>

the paperwork. So, being sure that the invoices are clear, complete and correct when issuing, is one step among plenty of others to ensure a prompt payment. In a second time, this paper will also present the steps to follow when the late payment turns into an outright default. For instance, you may be in for a protracted litigation or arbitration which is a way to cope with outright default.

METHODOLOGY

STEP 1: Summarize

In the year 2017-2018, a study from Business Finance¹⁰ brought to the fore that it took 42.2 days for invoices to be paid in the construction industry, whereas the results were lower with an average of 41.6 days in 2016-2017 and significantly lower, 5 years ago, with 40.3 days. This following study spotlighted a trend which is not getting any better and also pointed out the responsibility of payment delays in the high level of insolvencies. For instance, in 2016-2017, there were 2,633 construction businesses that went insolvent, rising from 8% to compare with the previous year. Considering this untenable situation, this paper needs to:

- Present and analyze the actions needed to be taken in order to prevent the late payment situations from happening
- Present and analyze the different possibilities at the disposal of a contractor or sub-contractor to protect themselves when the payer is late and doesn't pay

STEP 2: Identification of the Feasible Alternative SOLUTIONS

Nowadays, there are some special guides, such as "The Contractor's Guide to Getting Paid, A prime for contractors, subcontractors and suppliers"¹¹, mentioning different actions that contractors may undertake to prevent the appearance of payment delays. However, sometimes, regardless the actions that may have been taken prior to the project by the contractor or subcontractor, late payment situations may still arise and the payers may keep going the wrong way, meaning they don't pay. At this point, any contractors or sub-contractors need to get his money back and "between the tools at their disposal and state and federal laws there are ways for subcontractors to remedy nonpayment"¹². Therefore, in this context, two lists of alternatives

¹⁰ Derryn Rolfe, *Late payment in the construction industry*. Retrieved from <https://www.emwllp.com/latest/late-payment-in-the-construction-industry/>

¹¹ The Contractor's Guide to Getting Paid, *A prime for contractors, subcontractors and suppliers*. Retrieved from <https://www.lienitnow.com/the-ultimate-guide-for-getting-paid-on-construction-projects>

¹² Rachel Novotni, *Your Contractor Stiffed You-What Can Subcontractors Do to Get Paid?* Retrieved from <https://esub.com/your-contractor-stiffed-you-what-can-subcontractors-do-to-get-paid/>

solutions need to be designed for our paper and we will come up with the two best feasible solutions at the end of the paper. The first solution will be about the best alternative to be taken so to lower the risks of late payment and the second one will deal with the best step to follow in the event of delayed payment or worst, absence of payment.

Alternative solutions to minimize the risk of late payment

- A detailed contract
- Regular follow up
- Application of late payment fee
- Effective invoicing

Alternative solutions to remedy the late payment

- Mechanic lien
- Payment bond
- Contingent payment
- Lawsuit

STEP 3: Development of the Feasible Alternatives

Development of alternative solutions to minimize the risk of late payments

1) A detailed contract

One of the first alternative to minimize risks of delayed payment in construction industry is to come up with a very detailed contract to provide to the owner or to the contractor. A detailed contract is not only “A voluntary, deliberate, and legally binding agreement between two or more competent parties”¹³. A detailed contract sets out in detail what terms and conditions are used, how long the contract should be and among other things, this contract lays out very specifically all the financial obligation and enforces them in a timely manner.

2) Regularly follow up

The action of following up the payer on an ongoing basis means that the Contractor or the Sub-contractors needs to give calls, send gentle reminder or take advantages of unplanned visit (for example when a contractor does a check on the construction site of the owner he works for) to let the payer knows that deadline payments are coming closer. The outcome of following up in person on the occurrence or not of late payments, in the construction industry, has been

¹³ Law Insider, *Contract*. Retrieved from <http://www.businessdictionary.com/definition/contract.html>

specially brought to the fore by a study conducted in Ghanaian construction industry 8 years ago¹⁴.

3) Application of late payment fee

Late payment fee may be applied in the case in which the borrower fails to settle what he owes within a specified timeframe mentioned in the contract. The aim of this alternative is to deter the payer from being late in performing the payment and so to force him taking the invoice seriously. Late payment fee is broadly defined as a “charged to a borrower who misses paying at least their minimum payment by the payment deadline. Occasional late fees are capped at \$25 under federal regulations”¹⁵.

4) Effective Invoicing

Effective invoicing is about issuing clear, complete and correct invoices. Invoices must be detailed, easy to pay and issued on a regular basis. The ability to invoice as soon the work is performed enables to stay on top of late payers. Very specific payment applications may speed payment. The more precise is the invoice, the harder it will be to refute.

Development of alternative solutions to remedy late payments

1) Mechanics Lien

A Mechanics Lien is a legal document that reserves the right to ask for a legal claim against a property that the sub-contractor, for instance, was working on. A Mechanics lien gives the right to seek for unpaid compensation, when a contractor or sub-contractor never receives payment for the work he completed or material that he provided. It is usually filled by suppliers, sub-contractors or contractor. In order for a mechanic lien to have legal effect, it has to comply with lot of regulations enacted by States. Furthermore, “Mechanics liens are limited. They can only be filed on private projects; they cannot be filed on state, county or federal projects”¹⁶, which includes a certain restriction in their use.

¹⁴ Samuel K .Ansah (November 2011), “*The causes and effects of delayed payments by clients on construction projects in Ghana*”. Retrieved from <https://pdfs.semanticscholar.org/42f2/7bff644b10fd08620a9b940ffd95e065ea84.pdf>

¹⁵Credit Card Glossary, *Late payment fee*. Retrieved from <https://www.creditcards.com/glossary/term-late-payment-fee.php>

¹⁶ Three options for getting paid. Retrieved from <http://constructionexec.com/article/three-options-for-getting-paid>

2) Contingent payment

Contingent payment are clauses, in Construction Industry, that defines important rights and potential liabilities of parties in the contract. Two clauses can be distinguished: “Pay-If-Paid and “Pay-When-Paid clauses”. The first clause defines that once contractors are paid, they will pay the subcontractors. The second one requires the contractor pays the sub-contractors if, and only if, it is first paid by the contractor. These clauses are more popular in sub-contractor agreements and even if they become commonplace, “there is a growing number of states that either prohibits or discourage their enforcement”¹⁷.

3) Payment bond

A payment bond is a surety bond that forms a three-way contract between the Owner, the Contractor and Sub-contractors. It guarantees, for instance, that the contractors will pay their sub-contractors, laborers and materials suppliers in a timely manner and in compliance with the contract. Payment bonds are usually obtained prior to the beginning of the construction project by contractor or sub-contractors. Payment bond are often used on larger federal projects, over \$30 000¹⁸. The bond claim has no encumbered effect on the property itself, which can lead to the maintenance of actions on the property, with still, no sign of payment.

4) Lawsuit

Lawsuit is about going to a Lawyer. When you are stuck with an owner or a subcontractor that remains inflexible and refuses to pay for the work completed, you may have to go to the court. The problem is taken to a law court by the contractor or the sub-contractor in order to obtain a legal decision, and to overcome the problem of delayed payment. Studies have highlighted that nearly 50%¹⁹ of the clients choose to pay their bills rather than cope with legal actions. However, lawsuit is a process that may take time and be very expensive.

Development of attributes to measure, assesses or evaluate each solution

1) *Impact on the relationship*: This attribute will evaluate whether the alternative impact badly or not the relationship between the two contracting parts (owner and contractor or contractor and sub-contractor). Obviously, the less impact the measure taken to minimize or remedy late

¹⁷ Contingent Payment Clauses. Retrieved from http://www.theconstructionlaw.com/info_n_training/table-of-contents/contingent-payment-clauses

¹⁸ Three options for getting paid. Retrieved from <http://constructionexec.com/article/three-options-for-getting-paid>

¹⁹ Rachel Novotni (August 2018), *Your Contractor Stiffed You-What Can Subcontractors Do to Get Paid?* Retrieved from <https://esub.com/your-contractor-stiffed-you-what-can-subcontractors-do-to-get-paid/>

payments has, the better for the overall business process. In fact, parties “needs to mutual respect for the issues even though there is disagreement”²⁰. This is a mutual interest for both parties to stay in good relationships in order to complete the project successfully.

2) *Cost*: This attribute considers the cost of the alternative method used to prevent late payment from happening or to remedy late payment. In fact, both parties want to spend as little money as possible to ensure prompt payment situation or to get their money back when a payer doesn't pay. Some alternatives are cheaper than others. This attribute must be taken into account, especially when it deals with small business. «Many small businesses don't want to seek legal action because it's expensive”²¹.

3) *Duration*: A conflict may last a lot of time: sometimes weeks, months and in the worst case, years. This attribute should help us figure out what alternative, according to our two lists, is the shortest one in term of time, to prevent potential late payment situations or to resolve situation of non-payment. As, “unique to the construction industry is the additional factor of scheduling and the way in which a project's timeline can impact profit”²², a contractor or subcontractor must consider, more than ever, how time consuming an alternative action can be for his business.

4) *Effectiveness* : This attribute assesses “the degree to which objectives are achieved and the extent to which targeted problem are solved”²³, in our situation, that means whether or not the alternative used enables to either counter the apparition of late payments or to get over a missing payment from the payer. This is an obvious attribute to assess the quality of the alternative selected.

5) *Complexity of implementation*: complexity of implementation refers to the difficulty that can arise if we choose to implement an alternative rather than another. This attribute has been chosen because of the difficulty that can come up with the establishment of the alternative. Indeed, for instance, most freelancers that made up the construction industry “don't understand how small claims court works, and may choose to give up rather that put up a fight”²⁴.

²⁰ Livengood, John (2014) “Construction Claims A to Z’ CDR 1484 AACE Symposium Bangkok, Thailand. Adaptation Planning planet. Retrieved from: <http://www.planningplanet.com/guild/gpccar/settlement-negotiations-phase>

²¹ Derek Miller (July 2017), 8 options when your clients refuse to pay you. Retrieved from <https://www.score.org/blog/8-options-when-your-clients-refuse-to-pay-you>

²² Bob Hasulak (July 2017), *Time vs Money, What's Worth More in The Construction Industry?* Retrieved from <http://constructionexec.com/article/time-vs-money-whats-worth-more-in-construction>

²³ Effectiveness, Business Dictionary. Retrieved from <http://www.businessdictionary.com/definition/effectiveness.html>

²⁴ Lindsay Van Thoen (August 2014), 4 types of late-paying clients (and how to get your money). Retrieved from <https://blog.freelancersunion.org/2014/08/01/4-types-late-paying-clients-and-how-get-your-money/>

Methods used to rank order the possible solution from best to worst

We chose these 5 attributes because of their relevance to our list of alternatives. Nevertheless, these attributes need to be assessed and ranked as they have not the same importance. Therefore, in order to justify our ranking, we will use a non-compensatory model based on a disjunctive reasoning. A non-compensatory model “treats all the attributes as being equally weighted”²⁵. We will compare all the individual attributes against the others by giving a score of 1 to the preferred attribute and 0 to the inferior attribute. At the end, we will come up with our ranking from the best attribute to the lowest.

| Attributes | Complexity of implementation | Effectiveness | Duration | Cost | Impact on the relationship | Ordinal ranking |
|------------------------------|------------------------------|---------------|----------|------|----------------------------|-----------------|
| Impact on the relationship | 0 | 0 | 0 | 0 | | 0 |
| Cost | 1 | 0 | 1 | | 1 | 3 |
| Duration | 1 | 0 | | 0 | 1 | 2 |
| Effectiveness | 1 | | 1 | 1 | 1 | 4 |
| Complexity of implementation | | 0 | 0 | 0 | 1 | 1 |

Figure 2: Non compensatory model to rank attributes²⁶

Regarding the results displayed by this table, we can observe the attribute that needs the most to be taken into account is the effectiveness attribute. Then comes the cost, the duration, the complexity of implementation and finally, with the worst score, the impact on the relationship.

STEP 4: Selection of the criteria to ACCEPT or REJECT the Alternative Solutions

During this step, we will use a multi attribute decision making model based on a quantitative analysis. The aim is to compare the attributes to our two lists of alternatives solutions and so to highlight possible alternative solution order for our two situations. Three colors are used in the model below:

- green: good
- yellow: medium
- rouge: bad

²⁵ Sullivan, Wickes & Kroelling (2014) Engineering Economics 15th Edition Using the approach. Retrieved from: <http://www.planningplanet.com/guild/gpccar/managing-change-the-owners-perspective>

²⁶ By Author

Analysis of feasible alternatives to minimize the occurrence of late payment

| Attributes | Detailed contract | Regular follow up | Application of late payment fee | Effective invoicing |
|------------------------------|-------------------|-------------------|---------------------------------|---------------------|
| Impact on the relationship | Good | Medium | Bad | Medium |
| Cost | Low | Low | Low | Low |
| Duration | Medium | Long | Medium | Low |
| Effectiveness | Medium | Weak | Good | Good |
| Complexity of implementation | Medium | Low | Low | Medium |

Figure 3: Matrix Analysis for alternative solution to minimize occurrence of late payment²⁷

These attributes need to be weighted:

| Attributes | Detailed contract | Regular follow up | Application of late payment fee | Effective invoicing |
|------------------------------|-------------------|-------------------|---------------------------------|---------------------|
| Impact on the relationship | 1 | 0,2 | 0 | 0,3 |
| Cost | 1 | 1 | 1 | 1 |
| Duration | 0,3 | 0 | 0,8 | 1 |
| Effectiveness | 0,5 | 0 | 1 | 1 |
| Complexity of implementation | 0,5 | 1 | 1 | 0,5 |
| Total | 3,3 | 2,2 | 3,8 | 3,8 |

Figure 4: Matrix Analysis for alternative solutions weighted to minimize the occurrence of late payment²⁸

The multi attribute decision making model highlights relevant points. After analyzing these tabs, we decided that the alternative with a score strictly below 3,3 would be kept away for the following of our analysis. Thus, the alternative solution “Regular follow up” is not eligible anymore as the best fit options, whereas, **Application of late payment fee**, **Effective invoicing** and **Detailed contracts** still are. As the matter of fact, the regular follow up alternative is undermined by a strong duration to tackle a problem, that is why, its effectiveness is bad to compare with the others.

²⁷ By Author

²⁸ By Author

Analysis of the feasible alternatives to remedy late payment

| Attributes | Mechanic Lien | Payment Bond | Contingent payment | Lawsuit |
|------------------------------|---------------|--------------|--------------------|---------|
| Impact on the relationship | High | Medium | Medium | High |
| Cost | Medium | Medium | Low | High |
| Duration | Medium | Low | High | High |
| Effectiveness | Good | Good | Medium | Good |
| Complexity of implementation | Medium | Medium | Medium | High |

Figure 5: Matrix Analysis for alternative solutions to remedy late payment²⁹

These attributes need to be weighted:

| Attributes | Mechanic Lien | Payment Bond | Contingent payment | Lawsuit |
|------------------------------|---------------|--------------|--------------------|----------|
| Impact on the relationship | 0 | 0,5 | 0,3 | 0 |
| Cost | 0,5 | 0,5 | 1 | 0 |
| Duration | 0,5 | 1 | 0 | 0 |
| Effectiveness | 1 | 1 | 0,2 | 1 |
| Complexity of implementation | 0,5 | 0,5 | 0,5 | 0 |
| Total | 2,5 | 3,5 | 2 | 1 |

Figure 6: Matrix Analysis for alternative solutions weighted to remedy late payment

The multi attribute decision making model highlights relevant points. After analyzing these tabs, we decided that the alternative with a score strictly below 2 would be kept away for the following of our analysis. Thus, the alternative solution “Lawsuit” is not eligible anymore as the best fit option, whereas, **Payment Bond**, **Mechanic Lien** and **Contingent payment** still are. As the matter of fact, the Lawsuit alternative is undermined by strong cost, a relative complexity of implementation, a process that takes time and a bad impact on the relationship with the people you contract with.

²⁹ By Author

FINDINGS

STEP 5:

During this step, we will sum up the decision making process performed in the methodology part and we will go further by using an additive weighting technique³⁰. This technique is about comparing the normalized weight of attributes to the weight of the best feasible alternatives sectioned. As we have two ongoing decision making process, one prior to the occurrence of late payment and one once the late payment has arisen, we will have two tables using an additive weighting technique.

Additive weighting technique for actions to be taken to minimize the risk of late payment

| | Step 1 | Step 2 | Application of late payment fee | | Effective invoicing | | Detailed contract | |
|------------------------------|------------------|-----------------------|---------------------------------|---------|---------------------|---------|-------------------|---------|
| | Relative Ranking | Normalized weight (A) | (B) | (A)*(B) | (C) | (A)*(C) | (D) | (A)*(D) |
| Impact on the relationship | 0 | 0 | 0 | 0 | 0,3 | 0 | 1 | 0 |
| Cost | 3 | 0,3 | 1 | 0,3 | 1 | 0,3 | 1 | 0,3 |
| Duration | 2 | 0,2 | 0,8 | 0,16 | 1 | 0,2 | 0,3 | 0,06 |
| Effectiveness | 4 | 0,4 | 1 | 0,4 | 1 | 0,4 | 0,5 | 0,2 |
| Complexity of implementation | 1 | 0,1 | 1 | 0,1 | 0,5 | 0,05 | 0,5 | 0,05 |
| Total | 10 | 1 | 0,96 | | 0,95 | | 0,61 | |

Figure 7: Additive weighting technique to rank the alternative solutions to minimize occurrence of late payment³¹

As the result, this additive weighting technique enabled us to come up with a concrete result for what would be the best alternative between Application of late payment fee, Effective Invoicing and Detailed Contract. Indeed, Application of late payment fee and Effective Invoicing were ranked as similar in the step 4, but here, we can see that the Application of late payment fee alternative stands out from Effective invoicing.

³⁰ Sullivan, Wickes & Kroelling (2014) [Engineering Economics](http://www.planningplanet.com/guild/gpccar/managing-change-the-owners-perspective) 15th. Adaptation from planning planet. Retrieved from: <http://www.planningplanet.com/guild/gpccar/managing-change-the-owners-perspective>

³¹ By Author

Additive weighting technique for actions to be taken to remedy absence of payment

| | Step 1 | Step 2 | Payment Bond | | Mechanic Lien | | Contingent payment | |
|------------------------------|------------------|-----------------------|--------------|---------|---------------|---------|--------------------|---------|
| | Relative Ranking | Normalized weight (A) | (B) | (A)*(B) | (C) | (A)*(C) | (D) | (A)*(D) |
| Impact on the relationship | 0 | 0 | 0,5 | 0 | 0 | 0 | 0,3 | 0 |
| Cost | 3 | 0,3 | 0,5 | 0,15 | 0,5 | 0,15 | 1 | 0,3 |
| Duration | 2 | 0,2 | 1 | 0,2 | 0,5 | 0,1 | 0 | 0 |
| Effectiveness | 4 | 0,4 | 1 | 0,4 | 1 | 0,4 | 0,2 | 0,08 |
| Complexity of implementation | 1 | 0,1 | 0,5 | 0,05 | 0,5 | 0,05 | 0,5 | 0,05 |
| Total | 10 | 1 | 0,8 | | 0,7 | | 0,43 | |

Figure 8 : Additive weighting technique to rank the alternative solutions to remedy late payment³²

As the result, this additive weighting technique enabled us to confirm what we were thinking in the previous part regarding the rank of these selected alternative solutions. Payment Bond remains the best alternative to remedy late payment, then comes Mechanic Lien and finally, with a poor score, Contingent Payment.

STEP 6:

Ranking of our selected alternatives solutions to minimize the occurrence of late payment

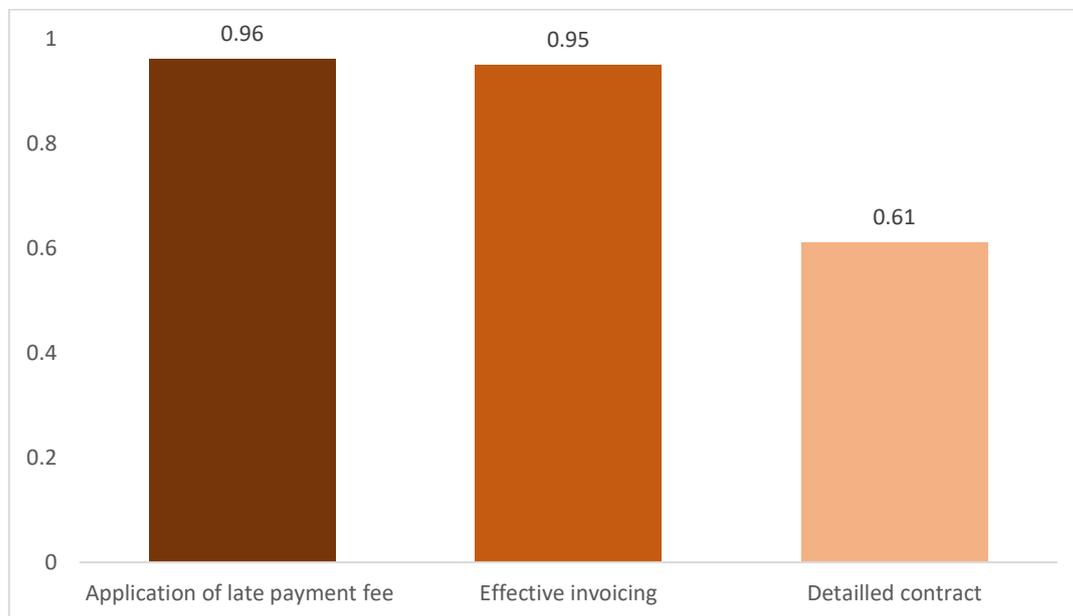


Figure 8: Ranking of our selected alternative solutions³³

³² By Author

³³ By Author

The outcomes of the analysis carried out in the STEP 4 enabled us to identify three possible fit options, whereas there were four possible alternatives at the beginning of our study. However, regular follow up could not be view as a viable alternative mostly because of its lack of deterrent effect for the payer and so its poor efficiency on the situation. Thus, with regard to its score in the multi attribute decision making model, we chose to eliminate this alternative.

After conducting the different analyses, we came up with the following rank order with **Application of late payment fee** as the best alternative solution, followed by **Effective invoicing** and a **detailed Contract**.

Doing Math, the application of late payment fee is about 150% more effective than the regular follow-up alternative and 155% more than a detailed contract. The application of late payment fee has strong deterrent effects on the payer and so forces him to take the invoice seriously. Indeed, “if you have stricter payment policies and kick up a fuss, they’ll move your payment to the top of the pile”³⁴.

Nevertheless, the weight of an effective invoicing and a detailed contract in the prevention of occurrence of late payment must not be underestimated. Indeed, a contract is your first line of defense, “³⁵without a good contract, you will not have the leverage you need to force payment when your customer is avoiding payment unjustly “. So contract has a prominent importance, especially when push came to shove. The same goes for an effective invoicing, even if we did not choose this alternative as the best one, it goes without saying that, with regards to its close rating score with the Application of late payment fee, it must also be considered.

Ranking of our selected alternatives solutions to remedy late payment

³⁴ Nick Darlington (August 2017), *Should you charge late payment fees on Invoices?* Retrieved from <https://www.freshbooks.com/blog/late-payment-fees>

³⁵ *How can a contractor get paid from a deadbeat?* Retrieved from <https://beaconrecovery.com/111606-beacon-recovery-testimonial.pdf>

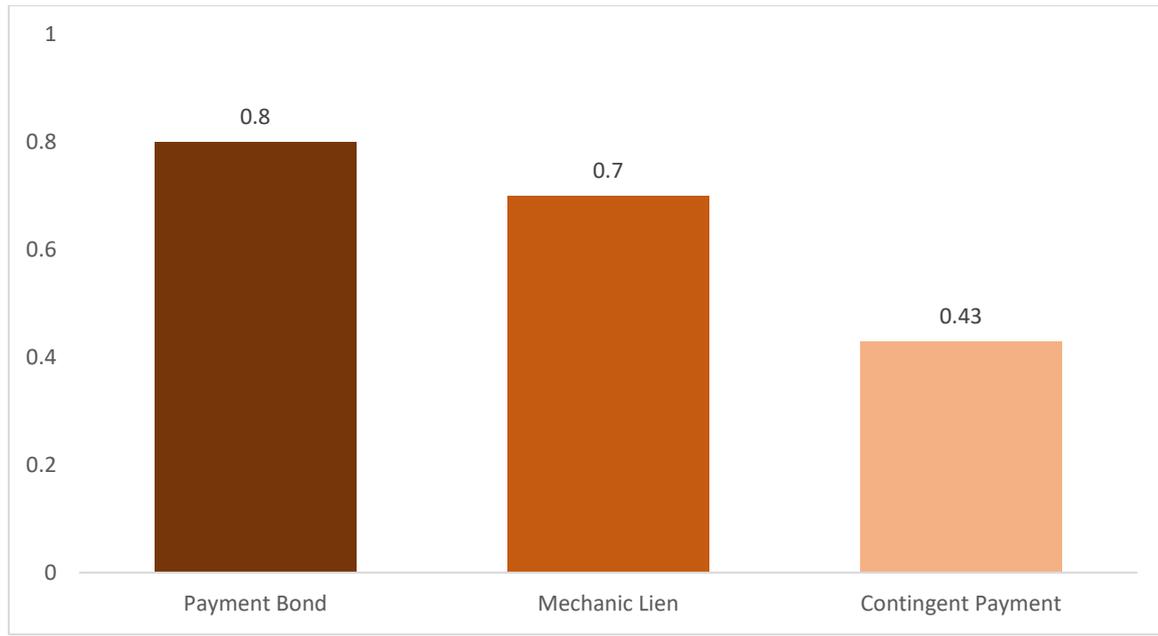


Figure 9: Ranking of our selected alternative solutions to remedy late payment³⁶

The outcomes of the analysis carried out in the STEP 4 enabled us to identify three possible fit options, whereas there were four possible alternatives at the beginning of our study. However, lawsuit could not be view as a viable alternative mostly because of its difficulties of implementation, the cost generated by this alternative and its duration. Thus, with regard to its score in the multi attribute decision making model, we chose to eliminate this alternative.

After conducting the different analyses through the methodology and the finding part, we came up with the following rank order with **Payment Bond** as the best alternative solution, followed by **Mechanism lien** and **Contingent payment**.

Doing Math, the use of payment bond is about 350% more effective than the Lawsuit alternative and 175% more effective than Contingent payment clauses. The use of payment bonds may be very effective, especially because you benefit from the help of surety. “The surety is essentially a co-signer for the bonded contractor, promising that if payment is not made they will step in and take over”³⁷

Nevertheless, the weight of Mechanism Lien and Contingent payment in the remedy of nonpayment situation must not be underestimated. Indeed Mechanic Liens are strong effective tools to get your money back. For instance, “Mechanic liens are difficult to challenge. Title owners cannot simply claim payment isn’t due. For a mechanics lien to be deemed invalid there

³⁶ By Author

³⁷ Three options for getting paid. Retrieved from <http://constructionexec.com/article/three-options-for-getting-paid>

must be a technical or procedural error”³⁸. The same goes for the Contingent payment clauses, sometimes, A “pay when paid”³⁹ clause may protect the contractor from being in an awkward position if the owner doesn’t pay him.

STEP 7:

Throughout this paper, we tried to highlight what alternatives are best to avoid or to resolve late payment situation. Now we have come up with our two preferred solutions, Application of late payment fee and use of Payment Bond, it may be time to evaluate them and to track them down thanks to a Pareto Analysis. Pareto Analysis is “a decision-making technique that statistically separates a limited number of inputs factors as having the greatest impact on an outcome, either desirable or undesirable”⁴⁰.

However, as our first reflection was about determining our best alternative, prior to a project, to avoid coping with late payment situation, we will not do a pareto analysis that sets the before without the use of the preferred alternative and the after with the use of it. This, would not be relevant. Nonetheless, our second reflection about the best alternative to use in order remedy late payments will be presented according to the pareto analysis as the situation is more appropriate.

³⁸ Three options for getting paid. Retrieved from <http://constructionexec.com/article/three-options-for-getting-paid>

³⁹ J.Norman Stark (July 2012), *Legally Speaking : Construction Contracts-Pay-If-Paid / Pay-When-Paid Clauses*. Retrieved from <https://www.constructconnect.com/blog/construction-law/legally-speaking-construction-contracts-pay-if-paid-pay-when-paid-clauses/>

⁴⁰ Pareto Analysis. Investopedia. Retrieved from <https://www.investopedia.com/terms/p/pareto-analysis.asp>

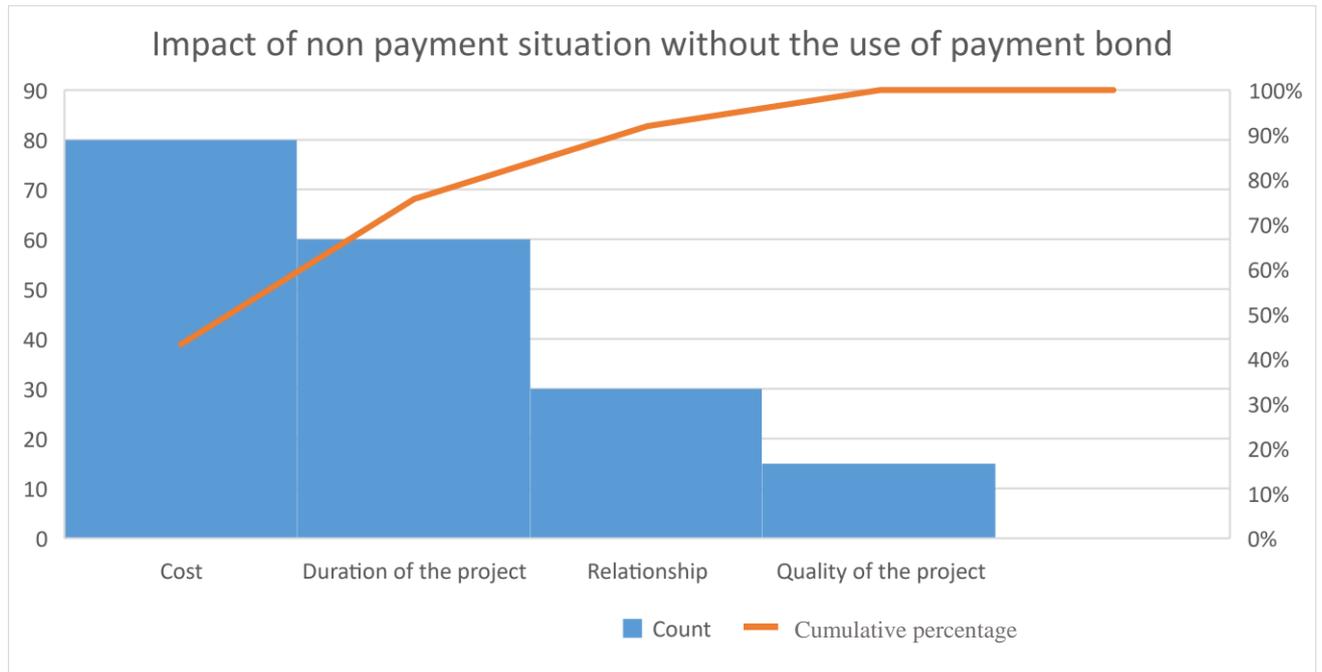


Figure 10 : Impact of nonpayment situation without the use of payment bond⁴¹

In this first analysis, we can see that without the use of payment bond to remedy late payment, some areas of the business activity are going to be badly impacted, resulting in an increase in cost, a longer duration of the overall project, but also a deterioration of the relationships between the different parts and a diminution of the final render of the project

Now, we will see the impact of nonpayment situation with the use of payment bonds.

⁴¹ By Author

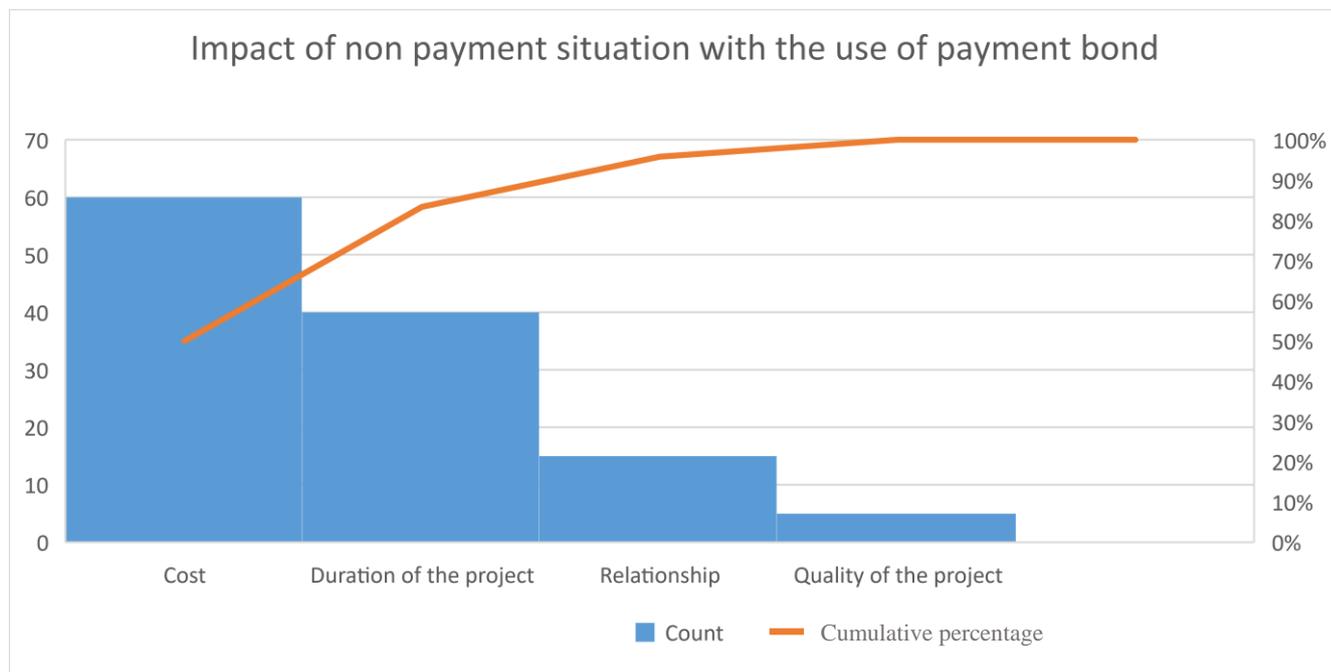


Figure 11: Impact of nonpayment situation with the use of payment bond⁴²

This diagram displays a clear improvement in terms of consequences on the budget, project duration, maintaining of good relationship and end quality of the project. Undertaking strong measure such as the use of payment bonds, forces people to comply in a very effective way with the financial obligations due.

CONCLUSION

This paper was aiming at answering two questions raised:

- What actions may be taken in order to prevent a late payment situation from happening ?
- What possibilities are, at the disposal of a contractor or sub-contractor to protect himself when the payer is late and doesn't pay?

These two questions are of a crucial importance for contractors and sub-contractors in the construction industry. The construction industry is set apart from the other ones. Indeed, “in the construction industry, funds flow from the Owner-Developer to the General Contractor and thence to the various Sub-Contractors and Sub-Sub-Contractors, based on satisfactory progress”⁴³. The structure is pyramidal, thus, the consequences may be dramatic. Indeed, “when

⁴² By Author

⁴³ *The Need For Prompt Payment Legislation In The Construction Industry, Prism Economics and Analysis*. Retrieved from <https://mcac.ca/wp-content/uploads/2015/08/Prism-Economics-Prompt-Payment-Report-2013.pdf>

any party in the payment structure withholds or delays payment, their action freezes the flow of funds to all levels of the pyramid that are subordinate to them”⁴⁴.

In this context, this paper gave us very specific insights of what were the actions and possibilities that contractors or sub-contractors could use to protect themselves in this very specific industry. After having compared and challenged every actions that a sub-contractor or contractor may take to prevent late payment situations from happening and also what tools they had to remedy late payment situations, we came up with our two best alternatives for each situation : Application of late payment fee on the one hand and use of Payment Bond on the other hand. However, we have to bear in mind that every single alternative that has been presented over this paper has their pros and their cons, and sometimes, the best alternative presented here doesn't fit a project situation in which you may are. «The industry has created several options to project contractors, subcontractors and suppliers from the risk of non-payment. Depending on what type of project it is, options might be limited”⁴⁵.

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⁴⁴ *The Need For Prompt Payment Legislation In The Construction Industry, Prism Economics and Analysis.* Retrieved from <https://mcac.ca/wp-content/uploads/2015/08/Prism-Economics-Prompt-Payment-Report-2013.pdf>

⁴⁵ Three options for getting paid. Retrieved from <http://constructionexec.com/article/three-options-for-getting-paid>

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