

## **Functional alternatives to improve Contractor's cash-flow<sup>1, 2</sup>**

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### **ABSTRACT**

In this world where financial problem become more and more usual, we will look on different way to improve the cash-flow in contractors companies, via multi attribute decision making and additive weighting Technique we will be able to define the best alternative to be put in place to ensure a good cash flow.

After analyzing those methods we are able to say that by doing a Quick payment to supplier, Adding late payment penalties and Interim milestone payments, the cash flow is improving for good. We can see that by doing small improvements in the payment methods from client and to supplier contractors can ensure a good cash flow.

**Keywords:** Contractor, Cash flow, Break-even Point, Cash, Profit, Financing

### **INTRODUCTION**

"While last year 591 000 companies were created in France"<sup>3</sup>, "53 000 were dying"<sup>4</sup> as studies from Insee and Banque de France can show. What do you think make them die?

"60% of those failed companies say that is due to a cash flow problem"<sup>5</sup>, but where are those cash flow problem coming from?

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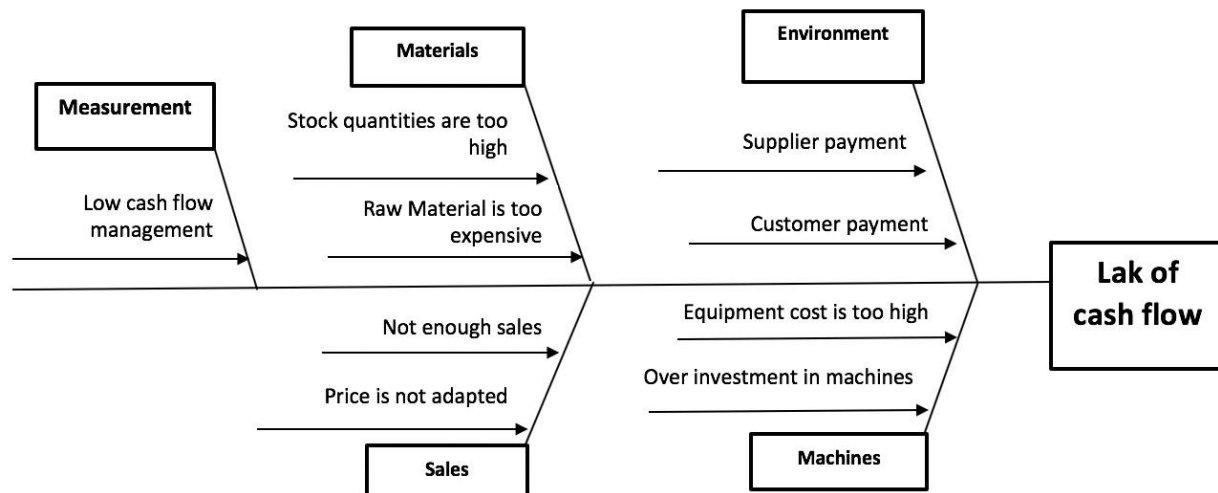
<sup>1</sup> Editor's note: This paper was prepared for the course "International Contract Management" facilitated by Dr Paul D. Giammalvo of PT Mitratata Citragraha, Jakarta, Indonesia as an Adjunct Professor under contract to SKEMA Business School for the program Master of Science in Project and Programme 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).

<sup>2</sup> How to cite this paper: Deleau, M. (2019). Functional alternatives to improve Contractor's cash-flow, *PM World Journal*, Vol. VIII, Issue III (April).

<sup>3</sup> Les créations d'entreprises en 2017 - Insee Première - 1685. (n.d.). Retrieved from <https://www.insee.fr/fr/statistiques/3314444>

<sup>4</sup> Défaillances d'entreprises. (2017, March 29). Retrieved from <https://www.banque-france.fr/statistiques/chiffres-cles-france-et-etranger/defaillances-dentreprises>

<sup>5</sup> Peavler, R. (2009, March 17). Small Business Cash Management Tips for Success. Retrieved from <https://www.thebalancesmb.com/cash-management-is-important-for-your-small-business-393118>



Graph 1. Root Causes Analysis<sup>6</sup>

Those are only few causes for a cash flow problem, there could be much more, it will most likely depend on the size of the company and the sector of activity.

As we can see cash flow is often a problem for company, causes could be multiple and come from various factors.

Even if those numbers are significant, they are concerning the entirety of all companies and not related to their sector or size, indeed it has been proven that the size of the company is influencing the success of the company year after year. We can find that small company has 20% to fail during the first year and 50% before the 5th year according to the Bureau of Labor Statistics. This percentage could be explained by the fact that small companies have less chances to create a cash flow during the first years of their existence.

As we saw cash flow is a problem for all companies and even bigger for smaller ones, the other factor that can make company willing to have more trouble with their cash flow is the way of functioning inside the company. For sure is more complicated to manage cash flow in a project-oriented company, because the company is divided in projects with incomes and outcomes for all of them it's more difficult to define the cash flow in the company.

Here we can introduce the notion of project management according to the Wideman Comparative Glossary, "An approach used to manage work within constraints of time, cost and

<sup>6</sup> By Author

performance targets.”<sup>7</sup> The cash flow management is part of it as it helps to work within cost and avoid being late because of cash flow problem.

As you could ask yourself what a project-oriented company is? Contractors are a typical project-oriented company because all their clients are contracting them for a specific project each time.

For those contractors, cash flow is a key to their success and they must take care of it if they don't want to fail during the first five years or event during their life time existence, in that way there is multiple solutions to reduce the risk of failure because of cash flow and this begin with the cash flow management. The cash flow management is a key to each company and procure various tools to reduce cash flow problem.

### **Step 1 – Objective Statement**

- 1) What are the primary causes of cash flow problems?
- 2) What preventative (proactive) steps can be taken to enhance cash flow/reduce cash flow problems?

### **METHODOLOGY**

In order to understand what responsibilities contractors have in their cash flow problem, we will find various alternatives that can be put in place to reduce their cash flow problem and identify which of them is the most interesting one to be used by contractors, it will help us to find where were the contractors problem in the first place.

Most of those alternatives are existing one, via multi attribute decision making tool we will try to define the best alternative according to our criteria.

### **Step 2 – Development of alternatives**

The possible alternatives to avoid a lack of cash flow and ensure the company's sustainability are the following:

- Quick payment to supplier<sup>8</sup>

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<sup>7</sup> Wideman Comparative Glossary of Project Management Terms v5.5. (n.d.). Retrieved from [http://www.maxwideman.com/pmglossary/PMG\\_P16.htm#Project%20Manager](http://www.maxwideman.com/pmglossary/PMG_P16.htm#Project%20Manager)

<sup>8</sup> Achats & Digital (3/4) ? Cultiver son cashflow. (2017, June 14). Retrieved from <https://instinctbusiness.com/achats/digitalisation-achats-ameliorer-cashflow/>

- Offering Cash discounts<sup>9</sup>
- Adding late payment penalties<sup>10</sup>
- Interim milestone payment<sup>11</sup>
- Rent or leasing vs purchasing equipment<sup>12</sup>
- Reducing inventories<sup>13</sup>
- Foresee needs by anticipating the demand <sup>14</sup>

We will use eight attributes to compare the previous alternatives:

Most of those alternatives come from the article: “6 Best Practices for Enterprise Solutions Implementation”<sup>15</sup>

- Cost: We will look at the cost for the company to implement those solutions, this is the main factor. As we look at cash flow, money is at the heart of the problem.
- Complexity: We will have a look to each alternative and see if it's not too complex to be implement.
- Risk: We will graduate the risk for the company based on the number of negative side effect each alternative could have in the company, this criteria is part of the best practices when implementing a solution in a company as shown in the article.
- Scope: It will help us to determine if a lot of people will take part in this implementation, as well as the risk this is an important factor as we can see in the document above.
- Time: It will help us to quantify the time needed to put the alternative in place in the company, has we saw above, cash flow is often about time, this is the reason why time is an important factor.
- Flexibility: Does the solution will always ensure the same benefit or is it variable?

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<sup>9</sup> Moskowitz, D. (2018, October 27). 10 Ways to Loosen Up Your Cash Flow. Retrieved from <https://www.investopedia.com/articles/personal-finance/061215/10-ways-improve-cash-flow.asp>

<sup>10</sup> Should You Charge Late Payment Fees on Invoices? | FreshBooks Blog. (2018, August 26). Retrieved from <https://www.freshbooks.com/blog/late-payment-fees>

<sup>11</sup> Stephenson, J. (2015, December 3). The Basics of Money Management. Retrieved from <https://www.entrepreneur.com/article/78994>

<sup>12</sup> Moskowitz, D. (2018, October 27). 10 Ways to Loosen Up Your Cash Flow. Retrieved from <https://www.investopedia.com/articles/personal-finance/061215/10-ways-improve-cash-flow.asp>

<sup>13</sup> Moskowitz, D. (2018, October 27). 10 Ways to Loosen Up Your Cash Flow. Retrieved from <https://www.investopedia.com/articles/personal-finance/061215/10-ways-improve-cash-flow.asp>

<sup>14</sup> Finance: Causes of Cash Flow Problems (GCSE) | tutor2u Business. (n.d.). Retrieved from <https://www.tutor2u.net/business/reference/finance-causes-of-cash-flow-problems>

<sup>15</sup> 6 Best Practices for Enterprise Solutions Implementation. (n.d.). Retrieved from <https://www.mastercontrol.com/gxp-lifeline/6-best-practices-for-enterprise-solutions-implementation>

- Cost Control: Do we have any control over the money we will need to spend on the alternative to put it in place?
- Functioning impact: Does it affect the actual functioning of the company from an employee point of view?

### **Step 3 – Development of the outcomes for each alternative**

- Quick payment to supplier

In big companies it has become something of a habit to pay the supplier lately, because they know they have the power to squeeze their supplier. If you look closer to it, it might not be the good solution for smaller companies, on the contrary by paying them faster you will get a better relationship with them and you will be more likely to have discount on your buying.

- Offering cash discounts

This is a good way to make your client pay faster, as it will help them reducing their cost they will be more inclined to pay you earlier than usually, this could be named as “a win/win situation”<sup>16</sup>.

- Adding late payment penalties

Adding penalties for late payment to your clients will help you to ensure payment faster from them, it will as well ensure you to have more serious clients. It will ensure you to have payment as soon as the product is delivered, this has a huge impact on your incoming flow of money.

- Interim milestone payment

This is an important alternative, specially for contractor, because they are more providing services, first of all the deposit will help them to buy the needs for the project. Then the mid-term payment will ensure clear deadline for the incoming of money. It will give them incoming cash prior to the end of the project.

- Rent or leasing VS Purchasing equipment

This alternative will help to maintain a good cash flow, not by getting more money but spending less. Equipment and machines is a big part of their expenses by renting or leasing the equipment it will help them to have a better day to day cash flow as you pay small amount each time, it will also help to have always the new and the most efficient machines.

- Reducing inventories

Inventories are often considered as sleeping money, as these inventories have a monetary value it might be good to get rid of it by selling it, as it is often difficult to sell it at the original price it

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<sup>16</sup> Moskowitz, D. (2018, October 27). 10 Ways to Loosen Up Your Cash Flow. Retrieved from <https://www.investopedia.com/articles/personal-finance/061215/10-ways-improve-cash-flow.asp>

is very common to reduce the price and be sure to sell those products. It will help to get more money and get read of this sleeping money.

- Foresee needs by anticipating the demand

We often say business depends on supply and demand, it has always been important to adapt the supply from the demand. By anticipating the demand, they will be able to adapt the supply faster and it will help to win more client.

**Step 4 – Selection of the criteria**

To help us in our approach we will use Multi Attribute Decision Making Tool. We will therefore evaluate from 0 to 15 all the alternatives regarding the five attributes we discussed above, 0 meaning that it’s bad for the company, 15 meaning it’s good. We will use as well a color system, red (it’s not good enough for the company) to green (it’s really good for the company), if any alternatives got three red attributes then it will not be accepted.

Criteria	Cost	Complexity	Risk	Scope	Time	Flexibility	Cost Control	Functioning impact	Total
Cost		1	1	1	1	1	1	1	7
Complexity	0		0	1	0	0	0	0	1
Risk	0	1		1	1	0	1	1	5
Scope	0	0	0		0	0	0	0	0
Time	0	1	0	1		0	0	1	3
Flexibility	0	1	1	1	1		1	1	6
Cost Control	0	1	0	1	1	0		1	4
Functioning impact	0	1	0	1	0	0	0		2

Table.1 Ranking of criteria<sup>17</sup>

This table helps us to define the most important criteria, here we can see that the most important criteria is Cost, follow by Flexibility, Risk, Cost Control, Time, Functioning impact, Complexity and Scope.

<sup>17</sup> By Author

Attribute	Quick payment to supplier	Offering cash discounts	Adding late payment penalties	Interim milestone payment	Rent or leasing VS Purchasing equipment	Reducing inventories	Anticipate the demand
Cost	15	10	15	15	15	15	15
Complexity	15	15	10	10	5	15	5
Risk	10	10	10	10	10	15	5
Scope	10	10	10	10	10	10	10
Time	10	15	10	10	10	5	10
Flexibility	10	10	10	10	15	10	5
Cost Control	15	15	15	15	10	10	10
Functioning impact	15	15	15	15	10	10	10

Table2. Multi Attribute Decision Making<sup>18</sup>

**FINDINGS**

**Step 5 – Comparison of the alternatives**

To summarize the comparison of the alternatives we will now use the additive weighting technique, this technique will help us to rank the different alternatives by using weight for each attribute.

As we said early on, money is at the heart of the subject that is why Cost will be the most important attribute, then comes Flexibility, Risk, Cost Control, Time, Functioning impact, Complexity and finally the Scope.

In the step 1 of the table below we find the relative ranking of the criteria that emerges from the ranking table above.

In step 2 a normalized weight of those criteria.

Then for each alternative we multiple the normalized weight of the criteria to the score we found in the multi attribute decision making above.

<sup>18</sup> By Author

This approach will help us to find the best alternative regarding the importance of each criteria.

	Step 1	Step 2	Quick payment to supplier		Offering cash discounts		Adding late payment penalties		Interim milestone payment	
	Relative Ranking	Normalized weight (A)	(B)	(A)*(B)	(C)	(A)*(C)	(D)	(A)*(D)	(E)	(A)*(E)
Cost	8	0,22	15	3,3	10	2,2	15	3,3	15	3,3
Complexity	2	0,06	15	0,8	15	0,8	10	0,6	10	0,6
Risk	6	0,17	10	1,7	10	1,7	10	1,7	10	1,7
Scope	1	0,03	10	0,3	10	0,3	10	0,3	10	0,3
Time	4	0,11	10	1,1	15	1,7	10	1,1	10	1,1
Flexibility	7	0,19	10	1,9	10	1,9	10	1,9	10	1,9
Cost Control	5	0,14	15	2,1	15	2,1	15	2,1	15	2,1
Functioning impact	3	0,08	15	1,3	15	1,3	15	1,3	15	1,3
Totals	36	1,00		12,5		11,9		12,2		12,2

Table 3. Table of the additive weighting Technique<sup>19</sup>

	Step 1	Step 2	Rent or leasing VS Purchasing equipment		Reducing inventories		Anticipate the demand	
	Relative Ranking	Normalized weight (A)	(F)	(A)*(F)	(G)	(A)*(G)	(H)	(A)*(H)
Cost	8	0,22	15	3,3	15	3,3	15	3,3
Complexity	2	0,06	5	0,3	10	0,6	5	0,3
Risk	6	0,17	10	1,7	15	2,5	5	0,8
Scope	1	0,03	10	0,3	10	0,3	10	0,3
Time	4	0,11	10	1,1	5	0,6	10	1,1
Flexibility	7	0,19	15	2,9	10	1,9	5	1,0
Cost Control	5	0,14	10	1,4	10	1,4	10	1,4
Functioning impact	3	0,08	10	0,8	10	0,8	10	0,8
Totals	36	1,00		11,8		11,4		9,0

Table 3. Table of the additive weighting Technique<sup>20</sup>

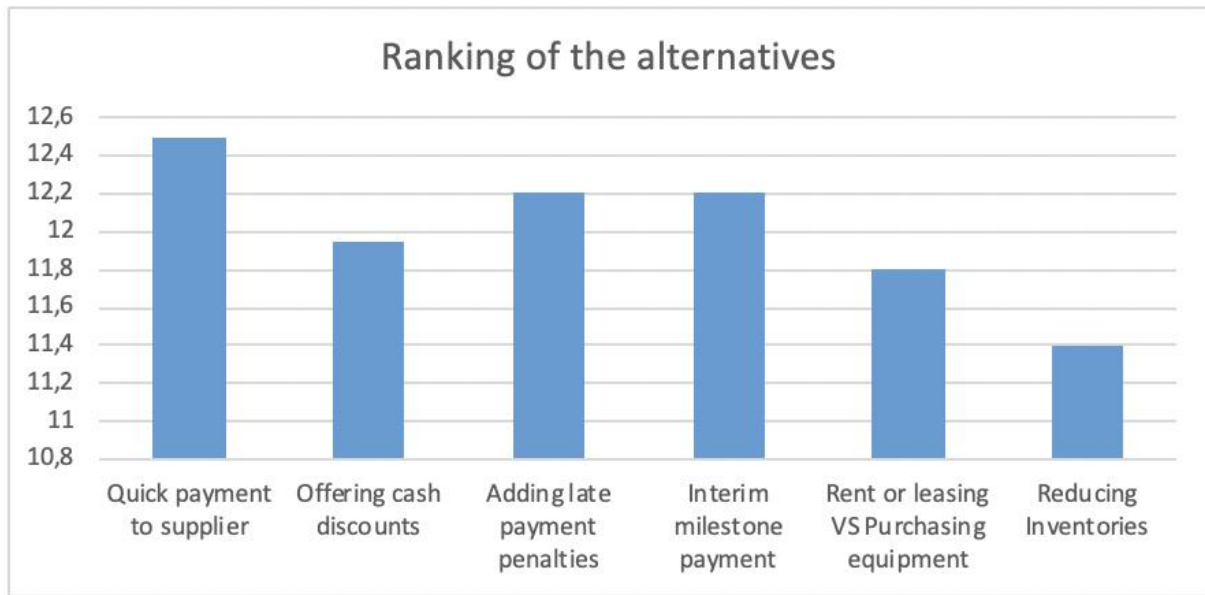
### Step 6 – Selection of the preferred alternative

According to the table of the additive Weighting Technique, we can now rank the alternatives from the best to the worst, we will as well get rid of anticipate the demand as it score is too low.

<sup>19</sup> By Author

<sup>20</sup> By Author





Graph 1. Ranking of the alternatives<sup>21</sup>

We are now able to compare the solution, if we compare the alternative Quick payment to supplier with Reducing inventories,  $(12,5/11,4)*100 = 110\%$ , we can see that Quick payment to supplier is the best choice by 110%. We will therefore recommend to use the first alternative, Quick payment to supplier.

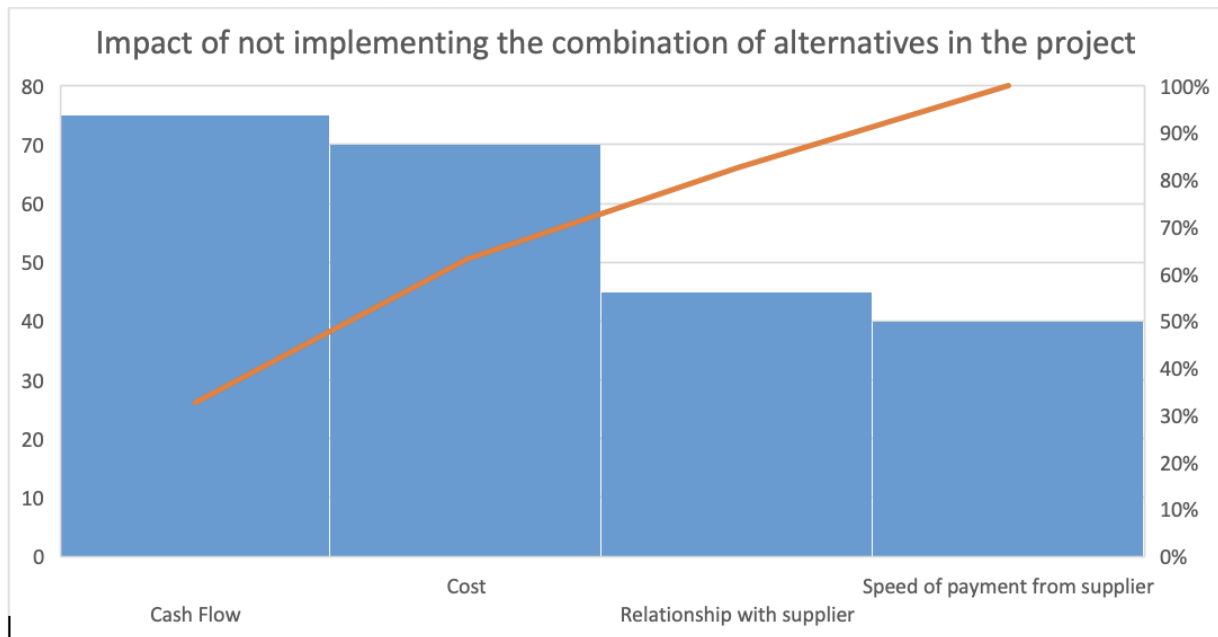
A quick payment of supplier is always a good thing, it allows you good relationship with your supplier and make you win money as you will get some better price, by reducing your expenses you will get a better cash flow, but if you want to get better the best idea should be to combine the first three alternatives, it will help you to spend less money on supplies and in the same time it will help you to have money more often and more quickly once the work has been done. This will make a real difference on your cash flow.

### Step 7 – performance monitoring & post-evaluation of results

Thanks to the step 6 we are now able to choose the best alternative, which will be a combination of the first three alternatives, namely Quick payment to supplier, Adding late payment penalties, Interim milestone payment. We will then produce a Pareto analysis. Pareto analysis is based on the fact that “80% of the problems come from 20% of the potential causes”<sup>22</sup>, this information will help us to prioritize the action to do first.

<sup>21</sup> By Author

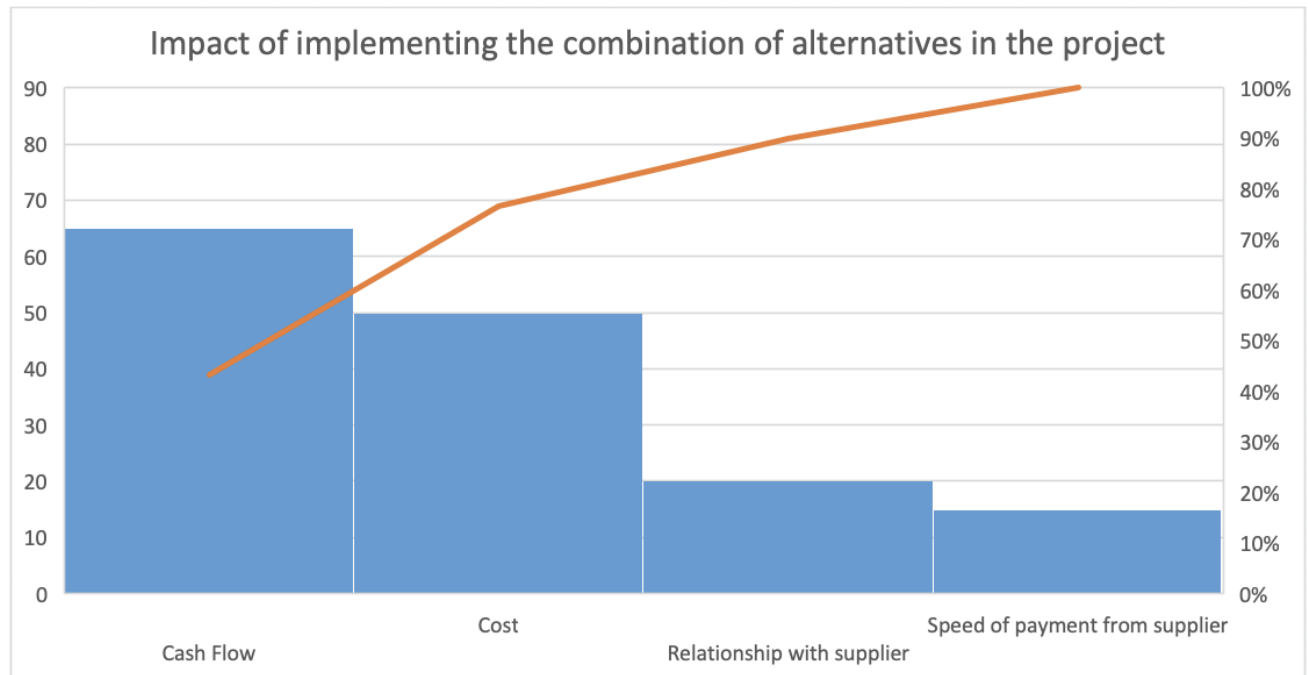
<sup>22</sup> GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR) | Project Controls - planning, scheduling, cost management and forensic analysis (Planning Planet). (n.d.). Retrieved from <http://www.planningplanet.com/guild/gpccar/risk-opportunity-monitoring-and-control>



Graph 2. Pareto Analysis Before Improvement<sup>23</sup>

With this first analysis we can see that not implementing the combination of alternatives has a bad impact on cash flow, cost, relationship with supplier and speed of payments, we will now look at the impact on those 4 criteria if we implement three combination of the 3 alternatives.

<sup>23</sup> By Author



Graph 3. Pareto analysis after improvement<sup>24</sup>

By implementing the combination of those 3 alternatives we can see that the relationship with suppliers gets really better, the payment from client arrives faster, the cost of the project is reduced and the cash flow is slowly improving too.

## CONCLUSION

This paper was aimed to find solutions to help contractors handling their cash flow problems, to do so we tried to answer these two questions: What are the primary causes of cash flow problem? and What preventive (proactive) steps can be taken to enhance cash flow/reduce cash flow problem?

The first question was important to see where the problem comes to help contractor focus their actions. Once this question was answered positively, the second one was to find alternatives that could be put in place by contractors to improve their cash flow problem.

In this paper we highlighted multiples alternatives for contractors to help improve their cash-flow: Quick payment to supplier, Offering cash discounts, Adding late payment penalties, Interim milestone payments, Rent or leasing vs purchasing equipment, Reducing inventories and Anticipating demand.

<sup>24</sup> By Author

After detailing all those alternatives, we made different analysis and studies; those studies help us to remove one of these alternatives: Anticipate the demand.

We finally found that the combination of quick payments to supplier, adding late payment penalties and interim milestone payments were the best alternatives, as they are easy to implement and help reduce cash flow problems significantly. In the long term, these reduce the cost of a project and improve relationship with suppliers, although we've seen that there is no contra-indication for using the six alternatives all together at the same time.

## **BIBLIOGRAPHY**

1. -Défaillances D'entreprise - La Banque de France : <https://www.banque-france.fr/statistiques/chiffres-cles-france-et-etranger/defaillances-dentreprises>
2. Cash Flow Problems in a Business. (2010, October 16). Retrieved from <https://smallbusiness.chron.com/cash-flow-problems-business-4916.html>
3. Finance: Causes of Cash Flow Problems (GCSE) | tutor2u Business. (n.d.). Retrieved from <https://www.tutor2u.net/business/reference/finance-causes-of-cash-flow-problems>
4. Finkel, D. (2014, November 5). The 4 Most Common Causes of Cash Flow Challenges (and what to do about them). Retrieved from <https://www.inc.com/david-finkel/the-4-most-common-causes-of-cash-flow-challenges-and-what-to-do-about-them.html>
5. Five small business rules for managing cashflow | Xero. (n.d.). Retrieved from <https://www.xero.com/us/resources/small-business-guides/business-management/managing-cashflow/>
6. Les créations d'entreprises en 2017 - Insee Première - 1685. (n.d.). Retrieved from <https://www.insee.fr/fr/statistiques/3314444>
7. McIntyre, G. (2018, August 29). What Percentage of Small Businesses Fail? (And Other Need-to-Know Stats). Retrieved from <https://www.fundera.com/blog/what-percentage-of-small-businesses-fail>
8. Peavler, R. (2009, March 17). Small Business Cash Management Tips for Success. Retrieved from <https://www.thebalancesmb.com/cash-management-is-important-for-your-small-business-393118>
9. Wideman Comparative Glossary of Project Management Terms v5.5. (n.d.). Retrieved from [http://www.maxwideman.com/pmglossary/PMG\\_P16.htm#Project%20Manager](http://www.maxwideman.com/pmglossary/PMG_P16.htm#Project%20Manager)

10. How to Better Manage Your Cash Flow. (2016, January 4). Retrieved from <https://www.entrepreneur.com/article/66008>
11. How To Manage Cash Flow In Small Business - Tips & Solutions. (2017, November 14). Retrieved from <https://www.profitbooks.net/manage-cash-flow-small-business/>
12. 7 Cash Flow Management Tips for Small Business Owners. (n.d.). Retrieved from <https://www.bill.com/blog/cash-flow/7-cash-flow-management-tips-for-small-business-owners/>
13. The essential guide to managing small business cash flow. (2018, April 12). Retrieved from <https://smallbusiness.co.uk/the-essential-guide-to-small-business-cash-flow-2542165/>
14. Achats & Digital (3/4) ? Cultiver son cashflow. (2017, June 14). Retrieved from <https://instinctbusiness.com/achats/digitalisation-achats-ameliorer-cashflow/>
15. Big Companies Pay Later, Squeezing Their Suppliers. (2017, December 21). Retrieved from <https://www.nytimes.com/2015/04/07/business/big-companies-pay-later-squeezing-their-suppliers.html>
16. Cash Flow in Project Schedule | Project Controls - planning, scheduling, cost management and forensic analysis (Planning Planet). (n.d.). Retrieved from <http://www.planningplanet.com/forums/planning-scheduling-programming-discussion/419446/cash-flow-project-schedule>
17. The Impact of Slow Payments on your Cash Flow. (n.d.). Retrieved from <https://academy.getjobber.com/resources/articles/impact-slow-payments-cash-flow/>
18. Stephenson, J. (2015, December 3). The Basics of Money Management. Retrieved from <https://www.entrepreneur.com/article/78994>
19. GUILD OF PROJECT CONTROLS COMPENDIUM and REFERENCE (CaR) | Project Controls - planning, scheduling, cost management and forensic analysis (Planning Planet). (n.d.). Retrieved from <http://www.planningplanet.com/guild/gpccar/risk-opportunity-monitoring-and-control>
20. Moskowitz, D. (2018, October 27). 10 Ways to Loosen Up Your Cash Flow. Retrieved from <https://www.investopedia.com/articles/personal-finance/061215/10-ways-improve-cash-flow.asp>
21. Should You Charge Late Payment Fees on Invoices? | FreshBooks Blog. (2018, August 26). Retrieved from <https://www.freshbooks.com/blog/late-payment-fees>

22. 25 Ways to Improve Cash Flow Management. (2018, July 12). Retrieved from <https://fitsmallbusiness.com/cash-flow-management/>
23. 10 Effective Cash Flow Management Strategies for Small Businesses. (n.d.). Retrieved from <https://www.firmofthefuture.com/content/10-effective-cash-flow-management-strategies-for-small-businesses/>
24. Why is a decrease in Inventory Asset expressed as positive cash flow? - Quora. (n.d.). Retrieved from <https://www.quora.com/Why-is-a-decrease-in-Inventory-Asset-expressed-as-positive-cash-flow>

## About the Author



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**Martin Deleau** is a 5th year student at ITEEM, an engineer and entrepreneur school which enhances his overall industry expertise as well as develops his background in management strategy and enterprise architecture. His school provides him a dual competence in engineering and commerce and allows him to be entirely able to work in a complex environment. The engineering competences are delivered by l'Ecole Centrale de Lille whereas his "MSc Project and Programme Management & Business Development" in SKEMA Business School develop his competences in project management. He is certified PRINCE2, AgilePM and currently following TOGAF certification courses. After an 8 months experience in New Zealand as a project intern at Filtec, developing new water treatment plant, he is now seeking new challenging experience in project management.

Through many projects in different fields, he developed a strong experience in project management and business development. He is open-minded, hard-working and is recommended for his leadership skills.

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