

Net present value assignment

[Business](#)



Northern was recognized for their superior technical capability, and although they were struggling to be competitive on the routine Jobs, they were able to differentiate themselves by completing complex Jobs in poor geological condition in a timely fashion, while extracting high-quality core samples. The deeper the holes, the greater expertise required as there would be severe consequences if mistakes were made, not only financially as Northern would have to cover the additional costs, but also risk the company's reputation if the project was delayed.

The stakes were high, if Northern managed to execute the DEEP job successfully; they would be established as one of Canada's most technically competent drilling contractors. However, if they failed, they could jeopardize their reputation of being technical experts, not only with Mood, but with the entire Canadian market as competing mining firms frequently shared information and experiences about various contractors. Furthermore, Peter is concerned whether or not Northern is capable of handling the deep Job successfully.

If Northern were to bid both contracts, they would require an additional 24 drillers to complete the Job. In order to align with Northern's long-term growth strategy, to focus on long-term specialized work, these drillers would need to be highly capable and experienced to avoid mistakes. The availability of diamond drills was a key issue as the Intermediate, Deep, Both Jobs would require 4, 5, 8 diamond drills respectively. Currently, Northern did not have any drills available but anticipated that 4 diamond drills could be made available but that depended on the renegotiation of the Miranda contract.

Miranda is the fourth largest nickel producer and had been Northern's largest customers for several years, representing 60% of revenue. Although it's important for Northern to diversify its client base, it's critical to maintain a strong relationship with Miranda. If Peter were to suggest investing in additional drills, he would need to understand the financial impact as well as guarantee that they would exceed the 20 % hurdle rate, which was the typical management benchmark, given the current industry conditions.

The final problem was setting a competitive price to pursue the bid. What price should Peter offer in order to beat the competition while maintaining a healthy margin, traditionally at 30% and ensure a good Return on Investment. CRITERIA . Financial Impact of the Investment - The first criteria to evaluate Peter's decision should be whether or not Northern has the necessary financial to pursue the investment in the drilling equipment, or whether Northern would need to obtain an additional bank loan, which could potentially increase the cost of the investment.

The drilling equipment would cost up to CA\$ 900, 000 per site, depreciated over 5 years straight line, with no salvage value, as these machines were deep earth drilling machines, operating in rough conditions. 2. Net Present Value - Secondly, Peter needs to investigate the Net Present Value (NPV) of each project scenario, I. E. Job type, gross margin, and # new diamonds drills purchased. The NPV will measure the variance of the present value of cash outflow (drilling equipment investment) versus the future value of cash inflows (future profits), at the benchmark hurdle rate of 20%.

A positive NP associated with the investment means that the investment should be undertaken as it exceeds the minimum rate of return. A higher NP determines which project scenario will have the highest return on cash flow, hence determining the most profitable investment in terms of present money value.

3. Probabilities of Success - There are several uncertainties that could affect Northerner ability to execute the contracts successfully, especially for the DEEP project. In addition to the holes to be 3000 meters deep, the problem is multiplied due to the geological conditions, which is expected to be poor in some areas.

Given the conditions, it's necessary to assemble a team of highly capable and experienced employees. Peter is aware that if he chooses to send proposals for both projects, he would need to find 24 additional drillers.

4. Future Growth Strategy - Does the Job performed align with the future growth? Northern is currently owns 34 drills rigs, of which 12 are deep diamond drills. Northern was only running at 75% utilization, although 100% of the 12 deep diamond drills are being used.

Does it make sense for Northern to invest in additional diamond drills (1-8) to shift focus on the specialized work and differentiate itself from the highly competitive market and secure contracts at higher margins? Is the market demand for such specialized work sustainable given that nothing is for certain?

ALTERNATIVES Don't Bid Only Bid Intermediate Job Only Bid Deep Job Bid Both Jobs

ANALYSIS 1. Financial Impact of the Investment The case explains that Northerner October year-to date revenue is CDC \$43 million with an BIT of 26 %.

We can use this information to compute the expected total Revenue and BIT for 2011 as \$57.3 million and \$14.9 million respectively. After a 30% corporate tax, this predicts that Northerner Net Income will be over \$10 million, Exhibit 8. This shows that Northern has enough money to invest in the 8 diamond drills, at \$900,000 each or \$7.2 million total, without requiring an additional back loan. Therefore this criterion has little effect on either of the alternatives. . Net Present Value A positive Net Present Value (NP) will demonstrate whether or not the investment exceeds the minimum rate of return.

Comparing the Naps also shows which proposal will yield the highest future value. To analyze this, it's required to run several simulations at different variable, I. E. Job types, number of drills purchased, and gross margins to determine the appropriate price. The Intermediate project, requiring an upfront investment of 4 diamond drills, will require a Gross Margin of 34% in order to be more valuable than the hurdle rate. This is determined by setting the NP value s 0 and solving for the Gross Margin. Given this is a routine Job; Northern wouldn't be competitive to bid at this rate.

If, Northern were to receive the 4 diamond drills from Miranda, the NP at the 30% target rate is \$2. MM, granting an EBITDA of \$MM at 22%, (Exhibit 7. 4). Northern should under no circumstance bid lower than the 30% target rate if they are serious about their long term growth strategy, as once you come down in price you set an expectation for the customer and this makes it difficult to increase your price later on. Although the NP for the Intermediate Job, tit no additional drill purchases is high, it is the lowest NP out of the 3 alternatives if Northern could avoid investing in 4 additional drills.

<https://assignbuster.com/net-present-value-assignment/>

If Northern were to pursue the Deep Job only, and forced to purchase 4 additional drilling machines today, plus 1 in 2014, they would need to set the Gross Margin above 33% in order to have an investment value greater than the hurdle rate. As the competition is limited for the complex Job, Northern has a good chance to push for a 35% MM, which gives a NP of \$KICK with an EBITDA of \$8, MM at 27%. In the event Northern were to recuperate 4 canines from Miranda, they could reach a NP of \$MM (6. MM EBITDA & 22%), or NP of \$MM (8. M & 27%) by setting the gross margin at 30% and 35% respectively, (Exhibit 7. 4). Finally, the most valuable investment in terms of NP, would be working to Both proposals. Even if Northern were faced with investing in 8 new drilling machines, the equipment investment would generate more value than the hurdle rate, at MM, at \$12. MM EBITDA and 25%. If the Deep job were set at GM (\$30. MM Rev) and the Intermediate at 30% GM (\$MM Rev), the combined GM for both jobs would be around 33% (\$53. M). The NP at this GM \$806, 821, getting an EBITDA of \$14. M at 27%. Needless to say, if 4 additional drills were to be made available from Miranda, the NP would increase even more, at \$3. MM (EBITDA \$12. MM/24%) and \$4. MM (EBITDA \$14. MM/27%) at 30% and 33% gross margins respectively. Therefore, submitting a proposal for both Jobs, would yield the highest rate on future cash flow.

3. Probabilities of Success

Given the extreme complexity of the Deep Job, due to the poor expected geological conditions and hole depth, the Intermediate Job has the highest probability of success.

Northern could allow up to 11% loss of efficiency and stay on schedule to complete the Job on time, which shouldn't be a problem based on their

expertise, Exhibit 6. 1 . Peter is however concerned whether or not he'll be able to put together a team capable of doing the work for the Deep project. Although the conditions of doing the Job alone, or at the same time as the intermediate Job are the same, the key-differentiating factor is the ability for Northern to use their own labor. If Northern were to staff both Jobs at the same time, they would need to hire 24 additional rollers.

My estimation is that Northern will staff a minimum of 4 drillers per site (1 Driller, 1 Derricking, 1 Motor/Floorboard, +1 Rotational, given 7 day workweek). 4 drillers x 8 locations, 2 shifts = 64 workers minimum, hence if Northern were to respond to only 1 proposal, they would not need additional labor. Although I'm convinced that the contractors can provide high-quality work, I'm concerned about their availability, as well as their commitment to work throughout the entire 3-year contract. The industry has experienced a shortage of experienced workers since 009, potentially making it difficult to identify 24 competent drillers.

In addition, although Drillers find long-term contracts to be appealing, the contract will eventually come to an end and put their Job security at risk. Non-permanent workers may be more likely to search for new opportunities and leave if presented with a permanent or long-term contract elsewhere. This is a huge factor especially in Year 3, 2014 of the deep Job. At full capacity, with 0% efficiency loss or failure, Northern is scheduled to complete the Job in 315 days, Exhibit 6. 2. Northern needs to guarantee less than 14% loss of efficiency, or else, fails to complete the contract in time.

Losing contractors within the last 6 months and having to find replacements would put the project completion at a severe risk. Finally, it would be easier to evaluate the competencies of a permanent worker, based on past performance versus an external contractor. Therefore, submitting proposals for Both Jobs will have the lowest probability of success. 4. Future Growth Strategy The underlying question to this criterion is, does this project and investment align with Northerner future growth strategy, to differentiate itself from the highly nominative market by specializing on long term specialized work.

The management generally avoided investing in new equipment, but this long-term contract presented an excellent opportunity to increase the equipment capital while maintaining a positive return on investment. On the other hand, the cyclical market conditions made it difficult to assess whether investing in 4 or even 8 diamond drills is truly necessary. If Northern were to bid both Jobs, and win both contracts without the additional machinery from Miranda, they would be obligated to purchase 8 additional diamond machines. Is there truly a demand for such capital expansion?

Can Northern manage to increase the diamond drill capacity by 66% and maintain quality work across all Jobs? What it comes down to is assessing the Capital capacity against the Reputation for technical expertise. In my opinion, if Northern manages to successfully complete the Deep Job, the reputation of being one of Canada's most technically competent drilling contractor would outweigh the increased capacity, which may backfire in a few years. It's about being the Best, not the Biggest. Hence, he Deep Job

received the highest number of points in the criteria and Intermediate the lowest.

DECISION Before making a final decision, it would be absolutely necessary to talk with Miranda regarding the situation. Of course, there's no guarantee that we will get a solid answer, but this will give Peter an idea of Moorland's confidence level and expectations for the upcoming year. If Miranda confirms that they will not renegotiate the contract, I would take this as a warning sign regarding the mining industry coming from the 4th largest Nickel producer. In response, Northern should reach for additional customers and bid on BOTH Jobs, at 35% GM for the Deep Job (\$30. M), and 30% for the Intermediate Job (\$23 M). This would give a total GM of 33% a total price of \$53. MM, exhibit 7. 3. I would assume that I would pick up multiple qualified permanent workers to send to Mood, and decrease the risk of leaving contractors in Year 3, 2014. If Miranda is tentative about the contract renegotiation given their urgent situation, I would take this as a sign of uncertainty about the future market condition and hence would not want to risk investing in 8 additional units for the Mood entrant.

I would recommend Northern to respond to the RAP for the Deep Job only at 35% GM at a total price of \$30. 8 M, exhibit 7. 2, which is in line with the long-term strategic plan. It would be difficult to guarantee high quality of work if Northern were to do both projects simultaneously and worker satisfaction and Job security may put at risk the completing of the Deep Job during the final months of year 3. Finally, if Miranda is certain to continue, I would also suggest Northern to respond to the RAP for the Deep Job only at 35% GM at a total price of \$30. 8 M, exhibit 7. 2.

<https://assignbuster.com/net-present-value-assignment/>

Investing in 8 units at the point is a risky investment given fluctuating market conditions and we need to guarantee the high-quality work, which could be at stake if performing both Jobs simultaneously. The critical aspect for differentiation is performance, not drilling capital or quantity of projects.

ACTION PLAN The first action item is for Peter to call Miranda to check in on the business and mention that Northern Drill is in the process of planning the resource allocations for the next year in an attempt to find out whether or not Miranda is planning on renegotiating the contract.

Of course there is no guarantee, but this is a necessary step, and management would expect Peter to have talked to Miranda beforehand if he were to make a pitch to increase capital investments. As explained above, if Miranda is uncertain, or confident to renew the exploration contract, I would suggest submitting the RAP proposal for the Deep Job only, as it aligns with the long-term company strategy. The NP and expected EBITDA are lower in comparison to working both Jobs simultaneously, however, Northern can make up for the difference by guaranteeing the success of the project.

The potential petition as a technical expert in the mining industry, and the repeat business with Mood would soon make up for the difference. I would advise to investigate with Northerner technical team on the potential efficiency rate on the Job given the difficult geological conditions and hole depth, and investigate whether Northern has learned anything from past experiences? And how much delay Northern could expect. If the efficiency rate is typically above 86% we're confident to execute the business, Exhibit 6. 2. Next, I would sit down with our HRS manager to assemble the best team possible.

<https://assignbuster.com/net-present-value-assignment/>

I'm confident that evaluating competencies in house is more reliable than working through external contractors. Next, I would make a pitch to the Management team, and propose to invest in 4 new quality machines, given it is an excellent opportunity to leverage the long term contract to grow and pay for the investment and position ourselves for specialized work. If the approval is granted, Peter should submit the RAP. In the event that Miranda decided not to renegotiate their contract, I'm assuming that Northern would receive 4 drills as well as the required employees to operate these.

This would make it beneficial for Northern to bid the Intermediate and Deep jobs 30% and 35% GM respectively as this would increase the probability of success of working both Mood Jobs simultaneously. In the event that Northern would have to hire additional contractors, I would invest some of the money saved on machinery investment to implement a completion bonus or roughly \$10, 000, due at the end of a successful 3-year contract. The idea is to incentive the contractors to complete the job before looking for new Job opportunities. Other than the incentive plan, the action plan would be the same submitting the Deep Job only.