**CES 421 M23**

**Assignment Week 4**

The article below states: ” In the world of construction, there is a non-linear relationship between time and cost, and it curves up and down depending on a variety of factors.”

What would you do the next you are in a position of having to choose between higher upfront costs and keeping with the schedule?

Would the NPV approach be of help in your decision-making process?

**Background reading:**

**Time vs. Money: What’s Worth More in Construction?**

By Bob Hasulak | Monday, February 13, 2017

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Like most businesses, the bottom line of a construction company is extremely important to its owners. But unique to the construction industry is the additional factor of scheduling and the way in which a project’s timeline can impact profit. When an owner is presented with a choice between saving costs or saving time, the choice can be difficult.
The old adage “time is money” is often true, but not always in construction. Just because one day is saved in the project schedule doesn’t always mean a set amount of money is always being saved. On the flip side, getting a better deal on materials doesn’t automatically mean saving time.

In the world of construction, there is a non-linear relationship between time and cost, and it curves up and down depending on a variety of factors. The next time a business owner is in a position of having to choose between higher upfront costs and keeping with the schedule, here are some things they should keep in mind.

**CONSIDER THE CONTEXT**

The most obvious scenario in which owners would have to decide between saving costs versus shaving time off a project is when they have a vendor who can save them a lot of money but takes longer to ship what is needed. This type of situation requires owners to think through the bigger picture.

First, what are the margins on the job overall? If there are high margins, it might pay off to get materials faster and pay a little more. But if margins are low to begin with, it might be necessary to save some money and hope it doesn’t knock the project off track.

On many projects, being late in delivering materials, products or labor isn’t something that is taken in stride. In fact, late performance can result in a breach of contract, leaving the company liable for liquidated damages.

Being penalized in this way will not only hurt finances, but could also spell trouble for future jobs. If there’s even a small chance that choosing a cheaper option for part of a project might make the business susceptible to penalties, any upfront cost savings aren’t worth it. Being late on a project will almost surely come back to bite you in the end.

**REMOBILIZATION COSTS**

Another factor to consider is the cost of labor for the job. If there’s a product that’s

significantly cheaper than a similar one, take into account what’s required to get and use that product. For instance, one product may be inexpensive, but requires a lengthy and laborious installation that will make the members of your team work harder and longer than they would have otherwise. That extra time on the clock for labor could likely make any cost savings received on the product negligible, if not negative in terms of what was saved.

There’s another factor to think about when it comes to labor and scheduling. Maybe the owner got a deal on some equipment, but it won’t be available as soon as it’s needed. The owner decides to take a chance and go for it anyway, since the savings on the equipment is so significant. But then it’s not delivered on time, and the entire project is held up waiting for it to arrive.

If there were men in the field waiting to use the equipment, they will have wasted a day on the clock and will need to come back again once it finally arrives. The cost of remobilization as a result of scheduling delays can be severe and is usually not worth any upfront savings.

**DOMINO OF DELAYS**

1. As any construction professional knows, each project is completed in stages, which are intended to build on the foundation and keep the workflow moving. If anything gets held up along the way, it has the potential to drastically delay the entire project. Even something as simple as nuts and bolts arriving late can cause the next stage to be held off, thus pushing back the next task a few days.

Since everything is handled sequentially, even the slightest delay can cause a domino effect of delays - losing a good deal of money in the process. Delays also contribute to unhappy stakeholders, which can wear down the business’ reputation over time. It’s better to be on time and keep the schedule moving than to save some dollars today and risk losing long-term costs and important intangibles later.

The next time a choice arises whether to save money in the short term or save time on a project, take all of these factors into account. Almost always, it will make more sense to stick to the schedule and deliver what the project in a timely fashion rather than choosing products or vendors based on cheaper costs alone.

It’s also important to note that the further out an owner plans, and the less hurried the project is from the start, the less chance the choice between saving time or money will need to be made.

The best protection from getting stuck in a bind like this is to ensure lengthy lead times with projects, figure out the details in advance whenever possible and keep extra materials and products that are regularly relied on in stock on the company’s property. Tough decisions are sure to still rear their heads, but at least business owners can minimize them with a little bit of strategy and a lot of forethought.



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