Velosio

AEC Project Estimating and Risk Management

In the highly competitive AEC marketplace, knowing and anticipating a project's expenses correctly provides **a definite advantage when competing for a contract.** But, even in the best of circumstances, cost estimating is complicated and there are myriad risks and uncertainties to consider.

First, it's important to understand the complexity of cost estimating. Companies should invest in proper training for estimating professionals. In many organizations, technical experts (e.g., architect, engineer, designer) are automatically assumed to be qualified to collect, build, and analyze project scope and deliver estimates. While this approach sometimes works on smaller ventures, assigning untrained technical people to build scopes and estimates on larger, sophisticated projects can prove to be a very challenging.

Deriving high-quality cost estimates depends heavily on the quality of data, for example, historical databases, comprehensive project plans, and standard work break down structures make it easier to make comparisons to similar projects. **In most cases, the better the data, the better the resulting estimate will be.** But you should always be on the lookout for common items that significantly increase risk in the planning and budgeting phase of projects, such as:

- Faulty assumptions. Clearly articulate and validate all assumptions.

- Lack of supporting documentation. All estimates should link back to relevant data.

- No historical data for similar projects for comparison.

- Out-of-date data. Economic conditions and market dynamics are continually changing and must be considered when referencing historic data. It is always a good idea to also consider current trends and pricing projections as well as historic data.

- Too much "grey area" in terms of the time required for the project.

- Too much emphasis on precision vs. accuracy. Many clients want precise estimates and demand more and more analysis to get exact costs and schedules. Most professionals will

agree that a rough but accurate estimate is better than a precise but inaccurate estimate. As an example, a task duration of 4.75 days is precise, but it says nothing about the accuracy of the measurement – the precision hardly matters if the whole estimate is off by 10 days!

These challenges often lead to underestimating project costs; thus resulting in significant losses or project shortcuts to mitigate losses. In addition, many projects, in both the commercial and public markets, are awarded based on low bids. Forcing AEC providers to offer competitive estimating and budgeting for new clients. With all of the competition out there, service providers have a need for cash revenue quickly, which trumps the requirement of making sure they'll profit in the long run off their shot-gun estimate. **By identifying and overcoming the common estimating and budgeting issues, service providers can bypass the underestimating barriers and increase estimating accuracy in the future.**

As a project progresses it is important to keep a pulse on how the estimate is holding up. It is important to keep abreast of whether there is a significant difference between estimated cost to complete and budget for remaining work, whether there are work phases/tasks with no budget left and if there is frequent allocation of contingency reserve for newly identified in-scope effort.

One of the biggest culprits in budget to actual variances is scope creep. Even when there's a clearly defined project scope, you still have to beware of scope creep. This phenomenon generally tends to occur when new features are added to designs that have already been approved, without providing equivalent increases in budget, time and/or resources. Some of the main causes of scope creep are similar to the problems that cause poor estimates:

- Poor Requirements Analysis: Customers don't always know what they want and can only provide a vague idea. The "I'll know it when I see it" syndrome.

- Underestimating the Complexity of the Project: Many projects run into problems because service providers get in over their heads and take on work they have never done before.

Velosio

■ Lack of Change Control: You can expect there to be a degree of scope creep in most projects, therefore it is important to design a process to manage these changes.

With all the uncertainties that are inherent to construction projects, there are some key best practices when it comes to developing a credible cost estimate:

■ an accurate project scope,

■ access to detailed documentation and historical data,

■ standard processes and work break down structures to ensure that no portions of the estimate are omitted and make it easier to make comparisons to similar projects

■ a risk analysis - known costs should be included and unknown costs should be allowed for, and

■ an independent review to establish confidence in the estimates

Lastly, an accurate estimate is not effective if the scope of the work that is being estimated is incomplete or misunderstood. While changes can be facilitated through a change management process, this is not the optimal approach. Estimates based on clear and open communication of all aspects of the project and with full understanding are essential. The more information that is made available before, during and after the estimate is built, the more accurate your estimating will be.

Conclusion

Generally, a project's approved cost estimate is generally used to create the project budget. Because a reasonable and supportable budget is essential to a project's efficient and timely execution, a competent estimate is the key foundation of maximizing project profitability.

With the best of these circumstances, cost estimating is difficult. It requires both science and judgment. Deriving high-quality cost estimates depends on quality of data, such as historical databases, comprehensive project plans, and standard work break down structures; making it easier to make comparisons to similar projects. In most cases, the better the data, the better the resulting estimate will be.

If you need assistance with improving your estimating processes, Velosio can help implement the right estimating and planning solutions to keep your projects on track.

Ready to grow your business?

Call 888.725.2555 or email: info@velosio.com and start a discussion with a business technology expert.