

Advantages of construction-specific solutions over generic spreadsheet applications

SAGE CONSTRUCTION AND REAL ESTATE SOLUTIONS



Introduction

Significant improvements in estimating productivity can be achieved by adopting a vertical (construction-specific) estimating solution versus manual or generic spreadsheet methods such as Microsoft Excel. Many statistics are touted in the industry, with some sources actually assessing up to a 50% increase in productivity.

Randy Pickard, project manager at Vandenberg Air Force Base, was a previous user of Excel who switched to a construction specific solution. According to Pickard, “What used to take us three days at a shot, sometimes a total of six days, we can do in under half a day now. That’s a big time savings.”

[Read more: Link to the Vandenberg Air Force Base story](#)

Some reasons for not using generic spreadsheet software include:

- You may seriously underestimate a project due to an overlooked, forgotten, or not properly quantified item.
- The “time drain” in building an estimate from scratch—one item at a time—is significant, and the need to maintain a number of Excel templates with up-to-date pricing and estimate details for specific types of projects is even more time intensive.
- When deleting an individual item from within your generic spreadsheet, you run the risk of an associated formula being lost or worse, no longer calculating properly.
- Too many steps or complex processes are involved for slicing and dicing, analyzing, and reporting on your estimate.
- Fearing that you were “low bidder” on a job due to miscalculations or worse yet, a missed item.

Even with productivity and improvements with respect to accuracy, construction-specific estimating solutions do present their own challenges. In this paper, we will raise the questions and discuss many of the associated pros and cons.

Time, Money, and Intuitive Functionality

One advantage of using a generic spreadsheet for your cost estimates is the fact that they’re easy-to-use and intuitive. Unfortunately, simplicity often times comes hand-in-hand with limited capabilities.

Most construction-specific solutions provide more growth capacity and sophistication, but are perceived as difficult to use. Some of these solutions, however, offer the best of both worlds: an easy-to-use spreadsheet interface, backed by a powerful database for added flexibility and integration with other applications.

Spreadsheet familiarity

A recognizable spreadsheet user interface (UI) means an instant comfort level and a shorter learning curve. And with some systems, the UI can be easily customized for each user and/or use, then easily recalled with only a few simple mouse-clicks.

One of the problems of using a generic spreadsheet for construction estimating is the fact that you have to type each line item in manually; unless of course, you’ve created a number of standard templates to use for specific project types. Unfortunately, this approach only multiplies the risks of potential data entry errors, omissions, transposed numbers, and outdated pricing. When using a construction-specific estimating solution, you simply populate your spreadsheet by pulling items or groups of items directly from your database. The database not only stores the items and assemblies but pricing, productivity factors, formulas, and more.

Database power

The thought of building a database can be formidable. But remember, making a database yours doesn’t mean you have to build it from scratch.

In fact, there are solutions that support industry-specific, pre-built databases with a kind of “do it yourself” approach to fine-tuning and further customization. A cost engineer with a large industrial gases supplier relies heavily on assemblies for his estimate generation and has this to say about his experience of customizing his database for use with his construction-specific solution.

Jim Hills, a cost engineer at Praxair, Inc., believes comprehensive databases can be key to saving both time and money.

“When we built the database, we wanted to make sure that it prompted the users for key cost drivers. We’ve kept it simple but at the same time made it very thorough,” Hills said. “If a person has a working knowledge of design or construction methods, he or she can hit the ground running and be preparing accurate, consistent estimates in no time at all.”

[Read more: Link to Praxair success story](#)

Upon estimate completion, many construction-specific solutions help take automation to the next level. Database pricing can be kept current by integrating with pricing services such as RS Means, Trade Services, and others.

The advantages of integration

Integrating and sharing data with other applications

Estimators’ responsibilities don’t always end once the estimate is completed and the job begins. Sometimes they may be required to buy out the job or perform project scheduling. And the last thing an estimator wants to think about is finishing up one process (estimating) and starting another one (project scheduling) using a blank slate.

Most construction-specific estimating solutions have at least some level of integration with other applications. Since construction-specific estimating solutions store a variety of details associated with items in the database (labor productivity, task, etc.), most make this information available—via integration—to other applications such as Primavera or Microsoft Project, thereby minimizing repetitive actions and the need to re-key data.

Other integration options

Estimate details can often be shared with construction-specific applications that support the Buyout, PO Generation, and Job Cost tracking processes. Once again, this reduces duplicate data entry, typos, transposed numbers, and omissions. Besides resulting in greater time savings and increased productivity, you’ll see improved accuracy and communication throughout departments.

Additional Productivity and Efficiency Tools

Takeoff methods

Digitizing technology is well known and widely used in the construction industry. Digitizing, an automated method for performing counts and calculating dimensions speeds up the takeoff process considerably. Integration with these types of tools is very common among construction-specific estimating solutions and can save a significant amount of time by eliminating the need for disparate systems and manual entry of these values.

The development of digitizing technology has continued to evolve over the years, and in some situations, the need for paper blueprints or a digitizing board is reduced. With the introduction and rapid adoption of onscreen (electronic plan) takeoff capabilities, estimators using construction-specific estimating software are taking advantage of this new approach to increase efficiencies even more.

Comparison and variance reporting

Flexible reporting is key when it comes to many aspects of the estimating process. In addition to sharing estimate information with other project team members as well as management, it's imperative that estimators can easily compare current estimates with data from historical estimates or conceptual estimates for a more accurate final estimate.

Typically, construction-specific estimating solutions include a variety of built-in reports that are needed for estimate generation, analysis, and collaboration. Having these built-in reports or a report writing tool that's powerful, yet easy to use, is critical throughout the entire estimating process to quickly provide the information you need when you need it. The ability to do a finite comparison between estimates or portions of estimates will ensure a better chance of success and accuracy with new jobs.

Locating, accessing, and utilizing historical estimates

Organizing and locating past estimates often becomes a difficult challenge, especially during crunch times. You're looking for a certain project you bid about 12 months ago and you begin to question how much more time you should invest in looking versus just moving forward and developing an entirely new bid. In an already hectic estimating environment, organizing and locating old bids can be overwhelming.

Utilizing historical project information can be a HUGE time saver when building new estimates and can also be a significant factor in developing highly accurate and competitive bids. After all, what did you learn the "last time around" when doing a similar job?

Some of the construction-specific estimating solutions can assist in this area and do the heavy lifting for you. They offer built-in methods for quickly viewing current and past projects from a variety of angles such as projects by status, type of work, estimator and more. Estimate management tools will help organize your estimates, minimizing the amount of time attributed to those frustrating and what seem to be endless, or even unsuccessful, searches.

Audit Trails

Looking back over your work before your estimate is considered "final" and your bid is submitted can sometimes be confusing. All too often, clarifications such as knowing just how a particular takeoff quantity was calculated or what dimensions or variables were used, relies on memory. Many construction-specific solutions support a kind of audit or electronic trail showing exactly what steps were taken and what values were used in calculating the takeoff quantity and ultimately your estimated costs. Some of these solutions also incorporate the ability to recall the takeoff variables, review, and change as needed. Calculations can be edited, replaced or deleted all the while, again providing a trail of exactly what was done with the particular takeoff.

Adjusting column values is a very easy process in Excel. Unfortunately, when a value is changed from "x" to "y" you lose the history of the change. And should the change or adjustment affect multiple items, it's a lengthy and time-consuming process to revert back to the original values. This is assuming you've kept track of the changes.

A good construction-specific estimating solution supports these types of changes; has a built-in method for automating and tracking them; and has an easy way to revert back to the original value before the adjustment. As a result, you won't have to jump through hoops to have better control and confidence about your bids.

Last Minute Cuts and Adds

Having the ability to spread last minute cuts or adds to a near final estimate can make the difference between winning a bid and/or leaving profit on the table. Estimators require a quick and easy method for identifying the spread (either a negative or positive) as well as the rules to be used (i.e. 6% add to all labor items within a particular phase of work). Equally as important is the capability to remove the adjustment after it's been made.

In Excel, this type of process is often handled by copying estimates at the time of each change in order to ensure they have the ability to go back to the original estimate if need be. However, a construction-specific solution should allow the estimator to make the adjustment, review, and either keep or reject the changes at any time without sacrificing estimate integrity or accuracy.

Subcontractor Bid Tracking

When bid deadlines are getting tight and you're waiting on supplier or subcontractor quotes in order to finish your estimate, multiple spreadsheets or scattered hand written notes only add to the stress. And keeping those quotes straight as they come in, then trying to easily analyze and choose who to go with can be tricky.

Many construction-specific estimating solutions help in this area as well by allowing the logging of multiple bids by vendor for individual or groups of items. A kind of spreadsheet within your estimating spreadsheet makes last minute subcontractor/supplier bid analysis, follow-up, and selection a breeze.

Estimate Your Way

After years of experience, estimators have their unique ways of doing things. In some cases, Excel has been manipulated, molded, and made to do things it was never initially intended to do. With that said, there have been some pretty impressive and sophisticated processes developed and performed using Excel. However, in today's increasingly competitive environment, estimators are always looking for ways to work smarter and find better uses of their time. Using a dedicated construction estimating solution allows for the same type of sophistication AND MORE with just a fraction of the time and effort.

Software developers provide many productivity and efficiency tools without mandating strict guidelines as to how they are used. Takeoff, for example, is offered in a multitude of options such as individual items, groups of items, and in some cases, an entire building or construction project at one time. Additionally, takeoff tools such as Digitizers and the electronic plan takeoff, are just two other alternatives that are available with some construction-specific solutions.

Once again, the developers of these construction-specific solutions have learned that they can not dictate or tell estimators how to do their jobs. Rather, they're providing the means to support the estimator's own specific styles and methods building estimates—resulting in significantly improved productivity and accuracy.

Conclusion

In order to win more jobs, you have to “crank out” more estimates. And, just generating twice the number of estimates alone won't help. In today's fiercely competitive market, you've got to work smarter by creating tighter and more accurate estimates instead of cutting corners and compromising your profits.

Although some generic spreadsheets may work fine for smaller, less complicated jobs, their capabilities may get pushed to the limits when bids demand more complexity and fine tuning. And you may not even realize those limitations until you're in the midst of an intricate bidding process.

Putting construction-specific estimating solutions in place not only helps you make the best use of your time but ensures that the time spent results in more accurate estimates that “hit the mark”. Eliminate the inconsistencies and the end result is improved confidence in your numbers. And, less time spent crunching numbers means more time for estimate analysis and strategies on how to win more jobs with a higher potential for profit.

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