



Copyright © 2015 by the Construction Financial Management Association (CFMA). All rights reserved. This article first appeared in *CFMA Building Profits* (a member-only benefit) and is reprinted with permission.

BY BRIAN CHICKOWSKI

# Using Technology to Drive Contractor Success

By 2020, the number of Internet-connected devices will grow from 400 million to 50 billion, and smartphones will have the capability of storing and accessing as much information as a supercomputer.

Successful contractors understand the positive impact that technology has on business processes, the ability to respond to change, cost savings, efficiency, and the bottom line. Best in Class contractors of all disciplines are leveraging technology across their businesses to achieve higher margins.

The opportunities for cost savings through the use of technology are expansive. It can eliminate waste, duplicate data, rework, and quality problems not only at the jobsite, but also within the workflows of corporate headquarters. By identifying and making strategic investments in the right technology, contractors can minimize the cost of problems by early detection and solutions.

In light of these factors and the growing need to attract a technology-savvy workforce, this article will discuss ways technology can reduce costs and streamline processes.

## Business Development

Gone are the days of a spreadsheet that tracks prospective work in a static listing. A growing industry trend is the use of Customer Relationship Management (CRM) solutions to keep the focus on potential customers and their upcoming projects. These systems foster future relationships via e-mail or social media marketing by keeping all dialogue in one place that can then be transferred through the procurement and sales processes.

Robust systems provide apps that allow for correspondence, phone calls, or information to be added to a customer's record from Internet-connected devices (e.g., tablets or smartphones) as well as e-mail integration.

Software status codes enable robust reporting to provide extremely valuable business intelligence (BI) to C-level executives and highlight where efforts should be placed.

Sales and marketing resources can then be deployed to the clients who have an immediate need and are most likely to respond favorably.

Armed with the ability to see where, when, and in what sector the demand for new construction or renovation will occur, organizations that embrace CRM software suites will have a competitive advantage.

## Estimating

The amount of time contractors have to provide a project estimate continues to decrease. However, embracing the right technology can somewhat expedite the process.

In the past five years, on-screen takeoff (OST) has dramatically changed the way Best in Class contractors perform their takeoffs. Most estimating software manufacturers have created robust, simple-to-use OST extensions to their main products. An estimator who becomes proficient in OST technology can perform takeoffs of most items in about 30% of the time with about 90% more accuracy than a traditional takeoff.

Not only does OST allow contractors to provide their clients with an accurate price, but it can also empower them to expand their estimating capacity and win more profitable projects in the same amount of estimating time.

## Operations

Owners want their projects built as soon as possible to get revenue flowing. Complex multi-story/multi-use buildings and hospitals are being built almost exclusively with the assistance of BIM. BIM is also now mandatory for any new construction or renovation at the General Services Administration. It is no longer a trend or advantage to have full-time BIM modelers on staff – it's a requirement.

Conflicts that arise during the installation of product in the field can bring these projects to a halt. BIM allows for these conflicts to be identified virtually prior to the physical construction, thus allowing tight schedules to be met. If an organization is not employing BIM modelers, then it simply will not be able to compete in the near future.



In addition to BIM, collaboration tools help successfully build these projects. These tools create a single location that contains the most updated information (e.g., the submittal process, Requests for Information, and plan revisions incorporated into the BIM model), which is key to an on-time, punch list free project.

If Software-as-a-Service (SaaS) doesn't work for your organization, then consider other cloud-based file-sharing services. With these services, you control the file structure and users who can access the information, and most files can be accessed and viewed using a tablet or smartphone.

## **Purchasing Materials**

For most contractors, the current method of purchasing materials needed for a project involves a bill of material that is provided to an internal purchasing agent either via e-mail or phone. The purchasing agent then sends out the bill of material for pricing to the suppliers that can procure and deliver the materials needed. Pricing is returned to the purchasing agent, and a vendor is selected based on price and availability. A purchase order is manually entered in the company's ERP system and sent via e-mail or postal mail to the vendor for fulfillment.

Forward-thinking contractors, however, have identified this process as labor-intensive and time-consuming. Human error can be compounded multiple times throughout this process.

The right software can speed up this process, reduce data entry, and act as the bridge between the material supplier and contractor. Look for software with an easy-to-use interface that allows for the creation of a bill of materials to be sent electronically to the vendor and for prices to be returned instantly. Streamlining this process also enables PMs to see committed dollars and forecast accordingly.

## **Theft**

When materials arrive at a jobsite, they are often stored in containers or trailers until they are needed. This opens the door to the possibility of materials theft. However, simple security technology can reduce this risk. Look for a device with GPS and an audible alarm.

Today's security devices can work with smartphones to deliver notifications via text message, e-mail, or automated phone call when an alarm is activated. Most devices can be attached to the materials themselves or on the storage container/trailer door to be used as a wireless alarm system.

## **Equipment Management**

Equipment management is also being streamlined through the use of technology. Many equipment-centric contractors are relying on solutions that take the human element out of recording the location, hours used on a job, and maintenance requirements.

Most solutions plug into the computer of the vehicle or piece of equipment, use GPS to determine its location, and use geofences to provide notification if a piece of equipment travels outside where it should be working.

In addition, notifications can be set up in the event equipment is actively running when production hours are over or if it exceeds a predetermined maximum speed. And, maintenance needs are automatically forwarded to the equipment manager from the monitored piece of equipment, resulting in timely preventative maintenance and reduced equipment neglect.

When employees are aware of the existence of such systems on their equipment, misuse and abuse of the company-owned equipment decreases greatly and traffic incidents often decline.

## **Document Management Storage**

In recent years, electronic storage space (e.g., on a local server or in the cloud) has made converting paper to digital files more affordable than all the costs associated with retaining documents (e.g., administrative time, reproducing lost documents, storage space, etc.). Did you know that the average cost of a misfiled document is approximately \$120 per file in time spent attempting to locate it as well as re-filing it in the correct location?

Several document imaging solutions exist that range in both complexity and cost. A good place to start the search is with your company's ERP vendor. It's helpful to use a compatible product that integrates with your current system so that documents can be easily retrieved. This also allows for workflows that follow existing infrastructure to be created in the same manner in which they are currently processed, resulting in a shorter adoption time by the employees with less of a learning curve.

## **Closeout Documents**

As a project concludes, the punch list and closeout document requirements become the governing documents for

the final payment of retention to most contractors. This is a significant hold up to collecting any profits. Getting in front of the needs and not waiting until the end of the project to determine them are critical to successful project closeout. Several cloud-based tools can be used to assist, and the minor associated costs more than pay for themselves when it can expedite cash flow and quickly get that final payment in the door.

### Conclusion

The younger workforce entering today's construction industry has grown up in a technology-driven world, and the days of using paper and pen are nearly over. Potential employees within the construction industry are increasingly seeking out organizations that use technology to the fullest.

How deeply is technology embedded in your business processes today, and will top talent find your company to be technologically attractive enough to want to work for you? ■

BRIAN CHICKOWSKI is Associate Director of Maxim Consulting Group, LLC in Denver, CO, where he works with contractors to implement Best in Class, fully scalable processes and procedures to drive increased profitability.

He specializes in reviewing ERP systems, billing and collections practices, and WIP processes to improve cash flow; establishing closeout procedures; and analyzing IT infrastructure to ensure compatibility with the processes.

Phone: 303-688-0503  
 E-Mail: [brian.chickowski@maximconsulting.com](mailto:brian.chickowski@maximconsulting.com)  
 Website: [www.maximconsulting.com](http://www.maximconsulting.com)

## Implementing a Successful Process Change

As Edward Deming said, "If you can't describe what you are doing as a process, then you don't know what you are doing." In order to maximize the benefits of a technology solution, clearly define the problem and thoroughly test the solution prior to full-scale deployment.

Start by gaining an understanding of the process. Who performs what steps, and how and when they are performed? (See the chart below.) Examine the current workflow to see if underutilized technology exists. Once the process is documented, identify and eliminate redundant efforts. Perform an

analysis to determine if technology can automate any steps in the process. Then, test the proposed workflow.

Train each user on the task he or she performs and the technology used. Since lack of training is typically the most common cause of failure to implement change, training sessions should be required, not optional. Once it's implemented, it's important to evaluate the process to make sure it is working as intended. Personal accountability ensures that the desired output will be accomplished. For example, implement metrics for compliance and/or quality to track accountability.

