

DEVELOP A **HOUSE UNITED**

Technology is aiding field-office collaboration by making construction data accessible, relevant and timely.

BY JOHN CHANEY

In a perfect world, everyone involved in a construction project works from the same playbook. They all use the same tools and processes to share critical information with each other in real time. Project managers in the field keep the accounting team in the office continually apprised of the project's status and immediately alert them when any necessary changes or issues arise. Meanwhile, the accounting team has a full view and understanding of the project from pre-bid to closeout. They assist the project managers by reviewing bids for accuracy, conducting background checks on vendors and subcontractors, adjusting financial data where needed and more. The result is a project that is completed on time and under budget, with few disruptions.

Yet, few—if any—projects operate in this way. In the real world, communication and collaboration between the field and the office is often hampered by missing or incomplete data, delays in relaying information and insufficient means to alert parties when important changes or updates are made.

The development of technologies such as specialized construction software, mobile devices and cloud computing have helped ease some of these project pains in recent years. However, achieving true collaboration between the office and the field requires streamlining both technology and business practice.

HARNESSING THE INFORMATION

One of the most critical aspects of a construction project is the data. Without the right information at the right time, projects can face frustrating delays, uncontrolled expenses and costly errors. Even worse, the lack of proper data can lead to legal woes both during the project and after it is completed. All of this affects the company's cash flow—not

to mention the ability to fund or even secure future projects.

To avoid these problems, construction data needs to be accessible, relevant and timely. This means that, ideally, everyone on the team is working with the same data accessed with the same technology; the information is accurate and presented in ways that make sense to different teams, departments or individuals; and the information is available instantly to those who need it.

A host of construction-specific technologies exist today—and that is one of the problems. Many companies have multiple software solutions deployed throughout the organization. For example, project managers may rely on spreadsheets and scheduling software while the accounting staff may utilize a separate, specialized business management system. These systems don't always integrate, and collecting data from one for use in another can be time-consuming and unreliable.

Even when one integrated system is being used, many times it has not been internally integrated into a company's business processes and work flow. Many still rely on older processes and tools, such as paper, in the field. In today's fast-paced business environment, these processes simply don't make sense.

Many companies across nearly all industries are moving into the cloud in order to speed up and streamline their work flows. With true cloud computing, the Web is the platform that unites information, data storage and access to software, all without the need for upgrades to workstations or third-party applications such as Remote Desktop. Everything necessary can be accessed instantly in a browser.

Perhaps nowhere are the benefits of cloud computing more evident than in the construction realm. While one company is still using paper in the field and email to



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communicate, the competition down the road is weeks—maybe months—ahead and is adding more to their bottom line with the use of cloud computing.

AFFECTING COMMUNICATION

Does a one-system, in-the-cloud technology approach to communication and collaboration really change the dynamics of construction projects so they're quicker, more efficient and significantly more profitable? The short answer is yes. But to look at it from another perspective, one could consider the evolution of cellphones.

Think back to the family vacation circa 1995—just fewer than 20 years ago. To completely document the trip, one needed to bring a camera, a video camera, maybe even a journal. To get around and communicate, someone on the trip had to have a map, a cellphone and perhaps a calling card. To access anything electronically or to check email, one might have to visit an Internet café or rely on the hotel lobby. In order to make purchases, most people had cash, credit cards and traveler's checks on hand. To enjoy attractions or events, a family had to visit box offices or will call to pick up reserved tickets, and even then, they had to have printed confirmations on hand.

Today, all of these functions can be accomplished with a smartphone. Video, photos, phone calls, notepads, texts, maps, connection to Internet and ability to access nearly any website, barcode scanners for payments and reservations, live updates on weather and traffic, etc.—nearly everything you'd need to plan, execute and document a trip—is available on one single device.

That same type of functionality is needed on the jobsite. Project managers must be able to instantly access data. They need to quickly document and communicate changes, problems, subcontractor invoices, time cards, financial data and more in order to keep the project moving on schedule. Without this information, management does not have a clear picture of the project and cannot effectively determine the project's job cost and revenue.

By operating in the cloud, both the office and the field teams can access and relay that data at any time. Using a single system to do so further increases the likelihood that the people who need to see the information get it immediately via features such as alerts and dashboards. Yet, in today's business environment, that's still not enough.

Simply sending an email or leaving a voicemail is no longer effective communication. Once sent, these messages are out of the control of the sender, who has no guarantee of response. Just take a look at most work

email inboxes as an example. Messages are constantly overlooked. But technology is closing the communication gap with tracking measures to alert when communications are received, opened and read as well as versioning control for documents to which multiple parties have access and can make changes.

REALIZING COLLABORATION

Getting information to the people who need it when they need to have it is the core of collaboration. But the execution of collaboration is achieved only when everyone involved buys into the process and understands why it's an important step to increased work flow and production.

Too often, different teams and departments become accustomed to working in their own silos. They use different procedures and technologies to process data. When the time comes to share data with others, information gets lost or delays occur when data that is collected and stored one way is transferred and reconfigured for use in another way.

Both business and operational management need to understand the big picture of how data (or lack of it) can affect the company's bottom line. Project managers and financial staff must be held accountable for more than just their core functions. They need to step outside their comfort zones. Both sides should sit together periodically to discuss projects, share ideas and review any problems.

New computing and mobile technologies are aiding those collaborative efforts. They keep the information channels flowing by presenting data immediately. When face-to-face communication is not possible, having the right solutions in place to instantly connect the field and the office can be a significant advantage.

But technology needs to be the "invisible hand"—an almost transparent part of the job. Software needs to be accessible and easy-to-use, and the data needs to be presented in ways that are relevant to the user. Even the most advanced software will not net the results desired if it is underutilized or not used at all. If it's not easy-to-use, people simply won't use it. **CBO**

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