

Managing project documents in a connected world.

conference preview

TO CLOUD OR NOT

BY JOSHUA E. COLLINS

BEFORE BEGINNING THIS DISCUSSION on the benefits of cloud-based project management, I have something to disclose.

I use cloud-based document and quality management software on my current projects. And while it has facilitated some extraordinary improvements in drawing management and RFI (request for information) generation, it has also brought to light some very interesting new problems to address. In short, it didn't fix everything, it sure didn't ruin anything and it wasn't free.

However, I think it brings great benefits overall. This discussion isn't so much about the wonders of the cloud as it is about how and where it worked, how and where it didn't and how to get the most out of it for future projects.

In my observation, the greatest benefits of the cloud pertain to the control of project information. The Project Management Institute (PMI) breaks down project information into three distinct categories: work performance data, work performance information and work performance reports. Work performance data consists of raw observations and measurements such as percent complete and technical performance measures. Work performance information analyzes the collected data in the context of the overall project. This includes items such as project completion forecasts, change request status and status of deliverables. The final component, work performance reports, is the prepared physical and electronic transmittal of project information in the form of memos, notes, updates and status reports.

Too Much Paper

Prior to using the cloud, work performance data was provided to me in the form of hand-marked drawings, text messages, sticky notes and generally any other medium that a foreman or superintendent could use to relay data to me. This created volumes of loose papers with notes that required several steps to analyze and create work performance information.

First, we would pull the contract, erection and fabrication drawings. The data provided by the field crews was reviewed and compared to the information contained in the drawings to validate the data or identify the exact discrepancy or condition noted. This work performance data was then transformed into work performance information, which was then turned into work performance reports by transferring the information into the appropriate format for distribution. In my experience,

the transmutation of data into information and then into reports was labor-intensive. The required labor was drawn from the most senior personnel on the project, who in many cases (at least in mine) were already stretched thin between meetings and the day-to-day operations of the project. This led to delays in creating and submitting the reports, typically in the form of RFIs, which are some of the most critical reports to support the project schedule. Additionally, the data and reports would then have to be filed appropriately, further increasing overhead cost.

Streamlined Solution

On my current projects, we use the cloud for drawing management and for creating RFIs. The cloud has streamlined the process when compared to my previous projects. Although we still use paper drawings for construction, field supervisors and site staff now have access to our cloud software, which stores an electronic copy of all of our drawings. RFIs are generated within the software suite, with field notes marked on the electronic drawing and automatic attachment of field condition photos, and the RFIs are automatically available to any stakeholder that has access to the software suite.

Reports are easily generated and distributed by the software, with appropriate electronic filing occurring automatically through the software. Where paper filing had become a matter of printing a report and putting it in a file, this new approach reduced time demands on our site staff and allowed us to focus on managing the project more effectively instead of constantly processing paper.

Joshua E. Collins
(jec295@me.com) is a senior project manager with S&R Enterprises, LLC.



conference preview

Learning Curve

Of course, I've only highlighted the wins on the cloud side. And there were definitely some wins. Resource requirements for site staff were reduced, and they were freed from the drudgery of reviewing an endless pile of sticky notes and scribbles on drawings. Data was easily shared and reports were easily created for distribution. However, the new process also introduced some growing pains early on.

I noticed that teams struggled to create quality RFIs for distribution. Oftentimes, the descriptions of the problems were unclear. Despite having all data attached to the drawing and photographs in each report, we noticed that we often had to provide numerous clarifications of problem descriptions. I was perplexed how the cloud enabled us to free up so much staff time in terms of report creation yet increased our struggles in terms of having others understand our reports. It wasn't until I began to review our performance in terms of PMI's description of work performance information that the problem became clear.

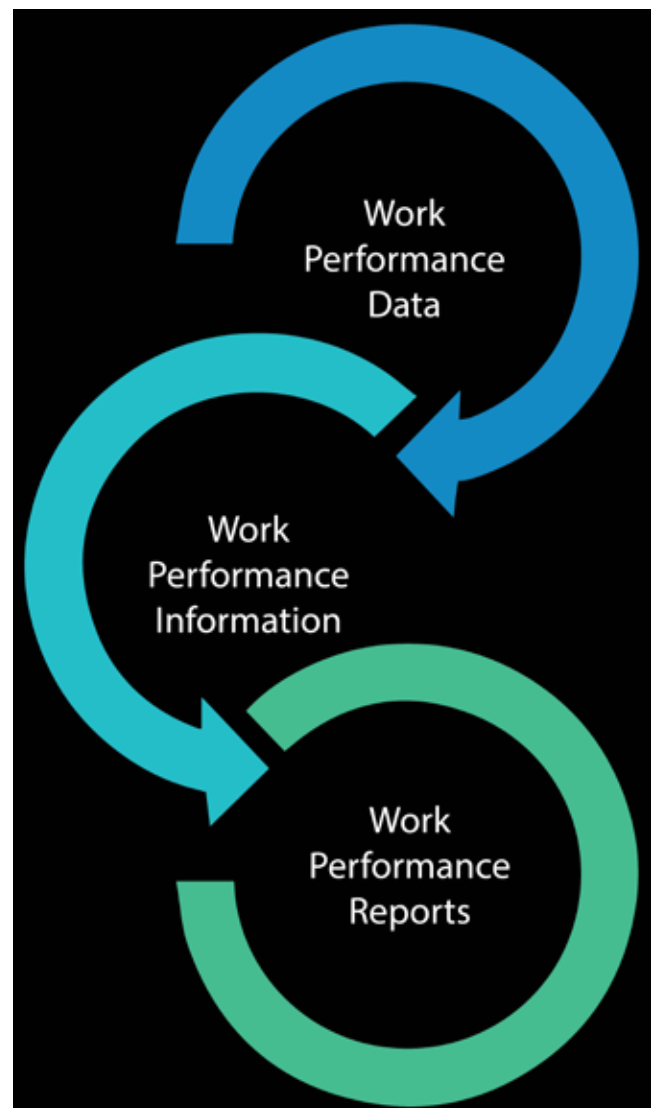
The cloud software enabled us to take a shortcut on the project information life cycle—and we didn't even realize it. The cloud handled our data so efficiently and easily that raw data was becoming a work performance report without ever being analyzed and validated as work performance information. I realized that our pre-cloud work intuitively included all three phases of project information. After all, we couldn't just send out some scribbles on a dirty, crumpled erection drawing with a sticky note attached or put ourselves in a position where the engineer is constantly requesting clarifications. It doesn't work. We were forced to transmute data into information and then into a report. Our cloud-based system was allowing us to skip the transmutation of data into information prior to becoming a report. And once we realized and adapted to this, our projects began to run much more smoothly.

To the Cloud?

I can't tell you if you should make the transition to the cloud. It is a decision for each management team, based on its abilities, needs and desires. I do know that for me and my team, the cloud approach has been beneficial. While it incurs some costs and early issues, I believe that a thorough analysis of how it can minimize risks and change orders, thanks to its ability to capture and report large volumes of project information, reveals that the benefits far outweigh the costs. The cloud won't fix everything and will certainly require you to reconfigure your management plans. But on the other hand, it puts more work performance data at the fingertips of your management team in a way that paper documents can't match in terms of volume and ease of use. Like everything else, it has its pros and cons, but

I can tell you this without a pause: I would not hesitate to use it again and am excited to transition more of our reporting into cloud-based software. ■

This article is a preview of Session T4 "To the Cloud or Not—Project Document Management in 2017" at NASCC: The Steel Conference, taking place March 22–24 in San Antonio. Learn more about the conference at www.aisc.org/nascc.



▲ The Project Management Institute (PMI) breaks down project information into these three categories.