

5 Ways Disconnected Data Systems Hurt Margins, Efficiency and Productivity

and Practical Steps to Achieve Data Integration



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HOW CAN WE HAVE A PIPELINE OF INFORMATION THAT CREATES ONE PLACE WHERE ALL THE DATA IS STORED?

THE ANSWER: **DATA INTEGRATION.**

When it came to sharing vital job data between the office and the field, Dynamic Systems Inc. was anything but dynamic. All jobs were being managed in Excel and the accounting system was nearly 30 years old. With siloed field data and manual reporting, this \$400 million Top 10 ENR company with eight nationwide branches found itself constantly mired in duplicated data entry, wasted rework and excess materials.

“There were guys in the field doing the installations and the drawings and that data just wasn’t getting captured,” said Randy Smith, Dynamic Systems applications manager, “the stakeholders got together and said, ‘how can we have a pipeline of information that creates one place where all the data is stored?’”

The answer: data integration.

While that’s a simple answer, experts warn the path toward integration is far more complex. Like Dynamic Systems, today’s construction firms are using a vast array of disparate data collection tools, distribution and storage methods — field apps, office ERP systems, drafting software, to name a few — that make it difficult to access information when and where it’s needed for maximum efficiency and margins. Even companies with updated ERP systems may still be fighting against siloed data and inefficiency because their systems are not fully integrated.

PROBLEMS WITH LACK OF INTEGRATION

The results of these disconnected environments speak for themselves. Studies show that, despite a market growing at a healthy 4% in 2018 and 2019, contractors continue to struggle with tighter and tighter margins in the range of 2% to 8%, according to the Construction Industry Institute. While other industries have seen dramatic productivity increases, reports show the construction industry's productivity has remained stagnant for the past 50 years. In fact, the Aberdeen Group, a respected market intelligence company that captures and analyzes behavior across hundreds of B2B sectors, found the following types of problems associated with disconnected data systems and the percentage of contractors reporting them in its [report](#): "The Cost of Doing Nothing: Why You Can't Afford to Sit on an ERP Software Decision":

- » Redundant data - 35%
- » Business systems can't interact with each other - 33%
- » System can't track business processes - 28%
- » Difficult to share data outside of the organization - 23%
- » Lack of collaboration capabilities - 23%
- » Inaccurate data - 23%

That's why more and more construction firms like Dynamic Systems are coming to believe in the power of integrating their data to make it more transparent, visible and actionable. But what does integration really mean — and how can it be accomplished on a practical level? To answer that question, it's helpful to first look at the ways that a lack of integration is affecting many contractors. Here are five.

FIVE STICKING POINTS OF DISCONNECTED DATA SYSTEMS

1. Low margins

One of the biggest causes of low margins is unnecessary rework. In fact, rework accounts for as much as 20% of project costs on average, according to the [Construction Industry Institute](#) report, “A Guide to Construction Rework Reduction.” Often, that unnecessary rework is the result of someone not having the right information when they need it on the job. At the same time, when work is completed but not recorded, margin fade can occur.

“If you don’t have the right answer to the question when you need it in the field, someone will do the wrong thing,” said Josh Wright, senior product manager at Viewpoint Construction Software. “And then you have to pay someone to undo it.”

FIVE STICKING POINTS OF DISCONNECTED DATA SYSTEMS

2. Duplicated work

Without a single repository, data often gets entered multiple times between the field and office. That duplication then leads to errors and inaccuracies that produce still more work and headaches. Integrating data means that once information is entered in the field or office, it automatically updates other fields or functions in the software and is shared among all stakeholders, so everyone is working from the same data sets. As one example of how powerful this type of integration can be, contractors saw a 50% reduction in the amount of time it took to capture and manage field time by simply using a mobile field

capture of time, labor and materials, according to the [report](#), “Driving ROI, The Case for a Proven Construction Management Solution” from Hobson & Company, which creates ROI and TCO sales tools and processes.

“The biggest thing is dual entry. Companies no longer want to enter data into two or three different places,” said John Patridge, director of construction data services for Tilson, a technology consulting and services firm that serves construction. “It’s a waste of time, it’s expensive and it’s prone to error. But it’s hard to put an ROI on that.”

FIVE STICKING POINTS OF DISCONNECTED DATA SYSTEMS

3. Inefficient supply chain

Not knowing what materials are in inventory or what the supply chain contains leads to confusion, unnecessary downtime and unneeded orders that add up to lost profits. Without proper planning and awareness of supply chain, contractors also can't take advantage of manufacturer volume discounts. With integrated data systems, contractors are always aware of what they have and how much to capitalize on manufacturer incentives. Hobson & Company's study showed a 75% increase in gross margins through improved estimating due to real-time and accurate reporting.

"Before we integrated our data, there was such a disconnect between the field and office that some materials were ordered and stored for jobs, but then they went to the wrong place or were just forgotten about," Smith said. "That's what started showing us we need to do something about this."

FIVE STICKING POINTS OF DISCONNECTED DATA SYSTEMS

4. No single source of truth

Jobsites are busy places, with sometimes thousands of people managing various aspects of the work using different tools and applications. Because these tools and applications don't talk to each other, no one has a single source of truth to look to when questions arise. As a result, contractors not only lack visibility into key data, they're often reacting to situations rather than strategically acting on information.

"So many people manage different aspects of the job with different tools and applications that no one knows really what the truth is," Wright said. "The foreman has a different understanding than the engineer and the back office because they're all looking at different information on the same job."

FIVE STICKING POINTS OF DISCONNECTED DATA SYSTEMS

5. Disorganized ordering and approval payment systems

Because data from work on various aspects of the job is siloed, ordering systems and payment approval processes are inefficient. As a result, workers often don't have the materials they need to get the job done and vendors aren't paid on time. But with integration, contractors can cut in half the time it normally takes to generate bills and track and manage unapproved AP invoices, according to the Hobson & Company study.

"Before, we literally had to call accounting and ask for a job cost report once a month," Smith said. "Now we can run a report whenever we

want. And the ability to make decisions based on that data has improved our efficiency tremendously. It's decreased our processing time for invoices by 50% and increased our AR collection as well."



HOW TO APPROACH INTEGRATION?

Understanding pain points is one thing, but just how can a complex contracting firm begin to approach data integration? That was the question Smith had to answer for Dynamic Systems. Here are the first steps he took to achieve buy-in and a smooth roll out:

- » Held a meeting with all stakeholders in one room to determine where data was being siloed and key pain points stakeholders were experiencing
- » Produced a flow chart of data so all stakeholders could clearly see where project hold-ups were happening and why
- » Examined all systems to see which ones were producing data bottlenecks and siloed data
- » Once the company began to address these issues through data integration, first with an updated ERP system, more and more employees began to buy into data integration. When the company was finally ready to move to full integration, Smith took the following practical steps to make it as seamless as possible while still maintaining employee buy-in:
 - » Created how-to videos and instruction sheets for all data forms that walked workers through the process

- » Posted all how-tos to the company intranet site for easy access
- » Established a hotline for specific questions related to integration
- » Visited each branch and identified an integration champion to handle training and questions
- » Created weekly training sessions to engage users and further grow buy-in
- » Established monthly meetings with branch managers, project managers and other stakeholders to identify and correct problem areas

As a result of these efforts toward more robust data integration, Smith says the company's ability to access key job data is at least 50% more efficient. At the same time, the amount of time it takes to process invoices has been cut in half.

"Everyone underestimated how helpful being able to see that data was going to be," Smith said. "We went from having to wait for a report or folder to where I can do this online immediately."

WHY CHANGE?

Clearly, disconnected data is more than just an annoyance. It is hurting margins, efficiency and productivity. While integrating data can be challenging, contractors can take simple steps to both prepare for data integration and achieve buy-in from workers. Those who follow this path say any initial growing pains are well worth the effort in the long run.

“Before we integrated, some people were saying, ‘It’s been working for 30 years so why change?’” Smith said. “But now everyone wants their own dashboard because they’re seeing the benefits of integration.”

HOW AN INTEGRATED, CLOUD-BASED CONSTRUCTION PLATFORM HELPS

As contractors move toward more digitized, mobile operations, the cloud is serving as the vehicle for modern construction management. With a construction-specific, integrated system in the cloud, contractors can significantly streamline their operations and work data in real time rather than making sense of it days, weeks or even months later. This is helping boost project productivity, as well as dramatically save costs and increase profitability.

[ViewpointOne](#) is the most comprehensive set of integrated construction management software applications available, providing full visibility across the office, team and field. And, it's flexible, allowing users to bundle the functionality they need and scale software to fit their needs, maximizing contractors' technology investment.



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