

Stop Treating Symptoms: Tips for Successfully Implementing Construction Technology

By Jay Snyder

Technology has become a critical capability in construction operations, and as we look to get more out of that investment, we have to tackle issues and opportunities by considering all aspects of innovation, including people, process and information.

Over the past five years, we have seen a proliferation of technologies enter the construction industry, watched an acceleration of invested capital into technology startups, and witnessed more contractors embracing technology overall. These trends are exciting and necessary in an evolving industry, but we have created a new problem by solving certain business challenges. Over time, technology providers and contractors have become so focused on new tech capabilities that tech is often adopted to treat the symptoms, leaving the core business problems unaddressed or even undiagnosed.

Now we must focus on identifying the underlying problem and ensure we are leveraging the proper tools as we create the solution. We must also remind



ourselves that we have four assets or levers that we can pull, to varying degrees, as we develop a solution to our problem.

Those levers are people, process, technology and data, each of which has a cost, tradeoff and opportunity to offer. Up until now, you've probably only heard of people, process and technology as the three legs of the stool. However, data (and associated information) is as useful and critical of a tool when creating the solution.

When leveraging these four assets, keep in mind that we want to solve a business or operations problem, pursue an improvement or understand a situation that may present a risk. However, in all of the excitement over the industry's digital transformation, it is easy to learn of a technology that addresses a symptom of a problem or inefficiency, adopt the technology, and either reap a short-term benefit or not achieve the full anticipated advantage. This happens because we jumped to securing



the technology without understanding the underlying causes. We also neglected to assess which combination of people, process, tech and data was most likely to produce the desired outcome.

If you read no further than this, the key is to stop chasing the technology to treat the symptom and instead to understand the underlying problem, apply the proper assets and include technology (in most cases).

Don't Push Tech for the Sake of Tech

As the leader of FMI's technology and innovation discipline, my role is never to push tech for the sake of tech. My responsibility to each of you is to strategically discuss the role of technology among all of your other assets to help develop a high-performing organization. I have talked to clients who have called me after a three-year failed attempt to adopt an enterprise platform to organize their business, spending millions of dollars on the software, only to have caused disruption, confusion and frustration.

I've also spoken with clients that nearly adopted technology, only to realize that they had process improvement work to do before writing the check for software. For some clients, tech strategies were purposely throttled because too many technologies had been pushed out in the preceding years.

Technology can be a major contributor to the organization's success when it is pursued appropriately; but it can also create risk when misdiagnosing the problem or treating the symptoms only.

I've also observed a deeper dilemma: a contractor's intent to advance his/her use of technology to create innovation. Simply buying tech doesn't make you innovative. While technology is an aspect of innovative organizations, far more is in play to achieve true innovation (see our [white paper on leading innovation](#)). Again, we fall back to our use of people, process, technology and data.

Some of the most innovative construction organizations are achieving success and performance that seem out of reach to others by redefining roles, responsibilities, organizational dynamics, streamlined processes, supporting technologies and data insights. My request is that we stop talking about technology as a way to be an advanced organization. Instead, let's talk about innovation and give consideration to the four assets available to create innovation.

Innovation in Bidding

Reviewing issues and opportunities from the lens of innovation, we can look to companies like RG Construction, which began considering how to apply more sophisticated analysis on its bid process



and project outcomes. By pursuing a higher level of consistency in its bid response process, RG Construction wanted to drive better outcomes, both in terms of project wins and profitability.

“The foundation for our successful projects starts with a superior estimating and bid response process,” states Brian Garcea, RG Construction executive. Building on the bidding processes would allow the company’s estimators, regardless of years of experience, to quickly leverage past performance and current backlog data to augment pricing decisions on bid day.

Through this exercise, RG Construction wanted to find ways to help trade contractors respond to bids more consistently and efficiently. This would help them avoid:

- Missed scope because of the chaos of managing volume of bids and the lack of both a standard template or process as well as time for quality review of bid packages.
- Failure to add appropriate inclusions, exclusions, clarifications and qualifications.
- Lack of experienced senior/chief estimators creating a bid response bottleneck that can be partially solved with standard terms, inclusion/exclusion libraries and consistent process.

The company also wanted to give its people the tools and resources needed to be able to automate repeatable, standardized tasks. It also wanted estimators to focus their attention on the more meaningful parts of the bid processes.

The answer included a reengineering of how to handle the bidding process, leverage historical information to better inform bid pursuits, and adopt trade contractor-specific bid response management technology to reinforce process and aid employees. It chose RhinoDox because it allowed for scoping templates, terms and conditions lists, inclusions and exclusions prompts, easy data collection and other key aspects, which reinforced process standardization. The platform creates consistent bid packages and allows the team to focus its attention on higher value aspects of bidding, such as project go/no-go analysis, pricing strategies and bid quality reviews.

Today, employees can make decisions based on past performance by project type, general contractor, estimator and actual vs. estimated. Critical project dates can easily be updated, which means improved planning and forecasting. As a result, RG Construction is backing up years of experience and intuition in order to offer the highest chance of success.



Innovation in Safety

Five years ago, Dome CEO Rob Lynch was meeting with operations leadership and asked how well its trade contractors were handling safety. In particular, Lynch asked if job site hazard analysis reports were being generated. In short, his operations leadership team didn't know; it couldn't answer that question.

Though everyone agrees that safety is job No. 1, and we are an industry that discusses safety and trains on safety as a job site norm, most safety content, tools and records are unengaging, paper-based products. As a result, safety is a common mindset. However, the way contractors train is inconsistent. They don't know who has received training on what. Because of this, safety program effectiveness is nearly impossible to analyze and quantify.

Knowing this, Dome Construction studied worker expectations, existing safety training and tracking documents that were in use. It mapped and optimized processes, identified how various decision makers engaged with employee safety training records, and created a supporting technology to solve these problems and inefficiencies.

Using eMOD technology, which is built around effective safety products, tools and processes that allow people to take ownership of their training, Dome Construction vastly improved the way it orchestrates and tracks safety training.

Today, the company's managers have real-time access to individual, project or trade contractor data on safety objective achievement. By involving field supervisors and incorporating lean construction principles, Dome Construction secured confidence and visibility to truly manage its safety metrics, drive safety behavior and proactively identify safety risk exposure.

Simple Steps to Take Now

If you have a technology committee, consider forming an innovation committee. Include non-tech people, strategic thinkers, doers, gratuitous people, complainers, managers and six sigma-minded people on the committee. In lieu of forming a new committee, consider "innovation hackathons." A few times a year, you can gather a group of people for a few days to identify inefficiencies or problems, assess the situation, develop courses of action and ultimately pitch a plan of action to leadership.

Other good steps include retaining outside counsel to challenge leadership thinking, suggest ideas from other companies, and make you aware of interesting approaches from outside the industry. Also consider funding lean six sigma training for a few interested employees. Understand that process improvement, when supported by leadership and executed well, always produces better outcomes. Define innovation as creating improvement. Don't color it as new, R&D, cutting-edge, technical or an incubator. Keep it relevant and practical, and ensure that innovation is helping to pay the bills!

The Time Is Now

Innovation is less tangible than technology and far less tangible than putting work in place. Unfortunately, innovation and technology have become synonyms, when in fact technology is a subset of how to achieve innovation. Consider that we are fed content about technology, not innovation; we are often sold technology versus outcomes. We talk about our experience with technology, but not about the new way in which we are working.

Innovation requires expertise in people and culture, continuous process improvement, technology and data. This understanding and algorithm for innovation must be understood at the highest level of the organization. Leadership must acknowledge what innovation means to the organization, how it feeds into the vision of the company, and how the organization will achieve it—regardless of whether leaders want to be innovation pacesetters or simply remain mindful of innovation opportunities.

Let's remember that digital transformation and adoption of technology are critical catalysts for performance, but that it's just one leg of a four-legged stool, and just one of four levers that you can pull. By focusing on innovation, you can solve the right problem or grab the right opportunity to achieve the best outcome.

Author



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Jay has led nearly \$1 billion of construction. Jay began his career at FMI in the Strategy Practice as a strategy consultant, leveraging his experience in business planning and operations. He now leads FMI's Technology and Innovation Discipline within the Performance Practice where he helps contractor clients develop business-focused technology strategies, creates a culture of innovation, leads technology sourcing and implementation, and guides data integration and business intelligence needs. He can be reached at [*jsnyder@fminet.com*](mailto:jsnyder@fminet.com).