Why the True Margins Are in How You Use Your Data

A guide to knowing what data is best for your company to collect & analyze

by Josh Bone
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I have done a lot of research over the past few months on how data is impacting other industries. This research has compelled me to create a new presentation, which I am now rolling out on the JBKnowledge ConTech Roadshow events, along with other selected conferences where I have been invited to speak. It’s amazing how data is changing the world around us.

Take, for example, the way scientists and philanthropists spend their money fighting diseases like Parkinson’s. The Michael J. Fox Foundation for Parkinson’s Research
revolutionized the way doctors are treating the disease through the collection of data.

Opposed to the old way of testing specific drugs on small control groups (which was extremely time consuming and expensive), the foundation compiled a massive database of people diagnosed with Parkinson’s from around the world and started texting them three simple questions every day—questions, such as: How do you feel today? What did you eat for lunch? What exercises did you do? What medication(s) are you taking? What is your medication dosage?

This data has led to the fastest progress of treating a disease in the history of medicine, which I find particularly fascinating. So, I decided to investigate similar uses of data my audiences could relate to and stumbled into the new world of sports analytics.

As a sports fan, I was vaguely aware of the term “sabermetrics” and with sports analytics in general, but I had no clue about the level at which they are impacting the games I watch. In every pitch thrown, every formation assembled, every play called today in baseball, basketball, soccer, hockey and football, data plays a huge part in the decision-making process.

Who knew LeBron shoots 11% higher from the left side of the basket than the right? Who knew coordinators have been collecting data and know that when a team lines up in formation on the 32-yard line on third down with 7 yards to go until first down, that they are more likely to run a certain play?

Today, change is occurring quickly, and there are a lot of important decisions to make. Everyone wants to make more informed decisions that improve their outcome—sports and construction professionals alike.

Construction is known as a high-risk, low-margin business. Any time contractors can decrease risk and improve margins, they should aggressively pursue these new methods. I believe that, just as it is in other industries, data is going to fundamentally change the architecture, engineering and construction (AEC) industry in the coming decade.

Companies like Autodesk, Procore and Trimble are investing heavily in tools that collect project data and in turn provide their users with insights, which results in decreased safety incidences, increased productivity through off-site construction
methods and more certainty in schedules. Going forward, companies are going to be at a competitive disadvantage if they are not able to take action on their data.

Using simple apps on mobile devices is a great place to start. Tablets and phones are important tools on a jobsite, as they enable us to capture real-time data in a way that wasn’t possible prior to cloud-based technologies.

If you are still using paper-based forms, there are numerous apps available that enable companies to turn their paper forms into digital forms, allowing them to collect more data. And it is all about collecting as much data as possible.

The current world of construction reminds me of the Donald Rumsfeld quote: “There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know.”

I believe there are so many unknown unknowns due to lack of standard operating procedures and siloed information that contractors do not know if they are making money on a job until sometimes long after the job has been completed. The devil’s is in the details, but the margins are in the data.

You must first collect more data than you need to start defining project and department-level key performance indicators (KPIs). KPIs are important for all companies to define, as they provide a focus for strategic and operational improvement, create an analytical basis for decision making, and help focus attention on what matters most. Knowing where to start in this process can seem daunting, but it all starts with measuring your current processes through collecting data.

You might receive pushback from your project teams, saying that they are too busy to fill out all the forms on a regular basis. But it is everyone’s job in management to communicate the importance of collecting this information so that you can act on the data to improve project outcomes. There is so much to learn from the information you collect at various stages of design and construction, but you have to be diligent in sharing what you are learning from the data with your project teams so that they have proof the data is impacting their work.

There are already numerous uses of construction data I have found in my research that could have tremendous value on your jobsites today. National Electrical Contractors Association (NECA) has been collecting data for years on overtime productivity.
Who knew that after 3 weeks of working 60 hours, a worker’s productivity decreases by 5% each week for the following 4 weeks? What percentage of your jobs are carrying overtime, and how many are hitting their scheduled delivery date?

How would it impact your decision-making process if you knew with a high level of certainty that workers making less than a certain amount were 30% more likely to get hurt on the job? What if you were confident that educating your project managers resulted in 20% less turnover in your employees?

These are just some of the things that data can tell us. I challenge you to explore areas of your business where data can reduce risk or increase your margins. Gaining insight into your current processes is critical to your future success. You can only manage what you can measure.

ABOUT THE AUTHOR

For more than 2 decades, Josh Bone has been implementing, training and presenting construction technology solutions to architecture, engineering, construction (AEC) owners and professionals. Bone specializes in identifying best practices and methodologies for integrating building information modeling (BIM) and mobile applications into everyday workflows. Bone has served as manager, director and vice president of consulting and business development at JBKnowledge, Graphisoft and Stanley Black & Decker. Visit stanleyblackanddecker.com.