Overview

The latest surveys from Dodge Data & Analytics and McKinsey & Company show that more than half of construction projects finish late and are over budget.

It's even worse for large construction projects, where 98% of large projects continue to be delivered, on average, 80% over budget and 20 months behind schedule.

Why do construction projects experience cost overruns and schedule delays? The answer is low labor productivity. The United States construction-sector productivity is lower today than it was in 1968.
In fact, over the past 20 years, construction productivity has grown only 1% annually.
In a recent article[1] published on Marketwatch.com titled "The construction industry has a productivity problem — and here's how to solve it," the authors wrote, Underinvestment in technology is one of the causes of low productivity. There is sound evidence of the link between the level of digitization in a sector and its productivity growth. The U.S. construction industry has invested 1.5% of value-added on technology, compared with 3.3% in manufacturing, and an overall average in the economy of 3.6%. In the United States, construction is the second-least digitized sector after agriculture.

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Low Construction Productivity Causes Cost Overruns

When you look at manufacturing, it benefits from repetitive processes and leverages real-time measures to track production. Construction managers don't have accurate real-time measures of how much work is getting done.

To solve this, many contractors send people around the job site with clipboards and tape measures; which causes them to rely on paper-based reports that are time-consuming and dependent on the experience of the individuals doing the reporting.

Consequently, this inaccurate progress tracking results in:

1. **MISSED SCHEDULES**
2. **PROJECT GROWTH**
3. **JOB OVERRUN**
4. **REDUCED LABOR PRODUCTIVITY**

As much as 80% of original value task cost increase: Without accurate real-time measures, construction teams can spend months-worth of staff-hours at a substantial cost before managers realize it. Projects finish late and over budget.

Benefits Of Increasing Project Productivity In Construction

Providing project managers real-time visibility into labor productivity (the most prominent factor affecting costs), is key to solving this problem. The Benefits of productivity tracking are numerous:

1 Quicker Project Completion
There is evidence[3] that recognizes that increased construction performance efficiency improves the time in the project-to-completion stages by forty-three percent or more. Contractors are able to further reduce and eliminate excessive project delays, unnecessary labor hours, and counter-productive overruns.

2 An Increase In Employee Morale
With greater job efficiency and productivity also comes a sense of overall pride in a job well done. When employee enthusiasm receives a boost, self-discipline spurs forth even greater project productivity.

3 Higher Profit Margins
Fewer project delays, reduced labor expenses, and better production efficiency help ensure that construction contractors reap the best possible return on investment.

4 **More Effective Competitive Bidding**
Understanding your field productivity gives your sales and estimating department more leverage to competitively bid projects and have more confidence in your margins to be more successful in attaining the right projects at the right price.

5 Hold teams accountable for any inconsistencies in their work schedule.

6 Improve construction project planning.

7 Monitor precisely how much work been completed and use it to justify your billing against your schedule of values.

8 Track your crews to identify strengths and weaknesses in production on projects.

5 Essential Technology Elements to Improve Construction Productivity

Historically, construction firms have delayed implementing new technology. As the Marketwatch.com article pointed out, underinvestment in technology is directly tied to reduced productivity. It is important to look out for the essential elements to look for when making a technology investment in order to track construction productivity:

1 Ease of use – The most critical feature of construction software is ease of use. It facilitates user adoption, increases user satisfaction and most essential increases productivity as happy people work harder.

2 Built for mobility – The construction industry is entering the "Mobile Revolution," in which apps are becoming an accepted means for workflows. A majority of workers have a mobile device, and mobile apps are becoming a significant solution for the construction industry as they increase efficiency and save time.

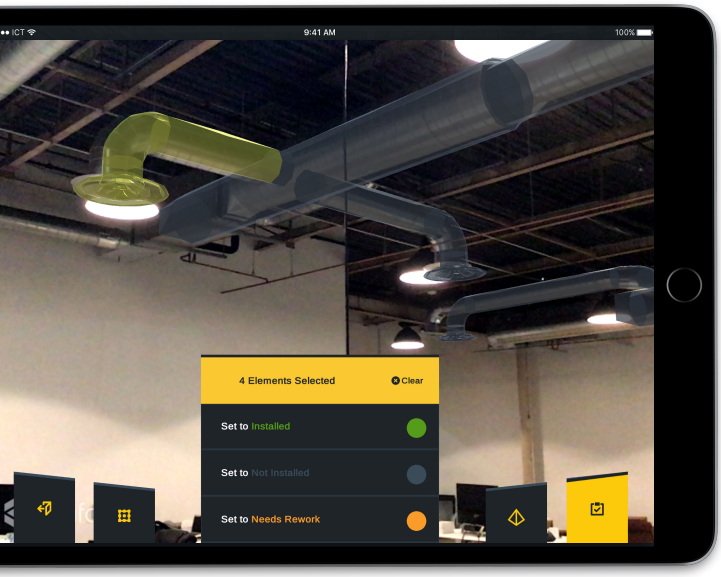
3 Real-time reporting – The ability to access and share project data in real time is invaluable to all project participants. It provides added productivity, better communication, and the ability to address project issues immediately as they arise.

4 Low cost of entry (startup costs) – Most construction companies spend 1% or less of annual sales volume on IT. Having a low cost of entry is very important to plan for in the technology budget.

5 Leverages 3D BIM technologies and a digitized work site – In a McKinsey report[2], a study found that 75% of companies who chose to adopt BIM revealed positive returns on their investment with shorter project life cycles and savings on paperwork and material costs. Further, in small specialty studies, BIM appears to be increasing productivity in labor. In a small contracting enterprise study, the impact of BIM on labor productivity was quantified, and findings demonstrated a 75% to 240% increase in labor productivity for modeled and prefabricated areas (Poirier, 2015).

Technology investments are as necessary as proper field tools to reduce project delays, adapt to project changes, improve operations cost control, safely and quickly complete tasks more efficiently, and provide a quality project on-time and within budget.

ICT Tracker: A Tool Toward Increased Project Productivity



ICT Tracker, from Innovative Construction Technology, provides job site productivity tracking and reporting using an augmented reality application. It's an easy-to-use solution enabling real-time monitoring of construction site progress which offers accurate installation status for scheduling, billing, and installation productivity data for project estimation.

With ICT, Contractors can accurately track construction projects, control costs, and make better decisions based on detailed, up-to-date information from the job site.

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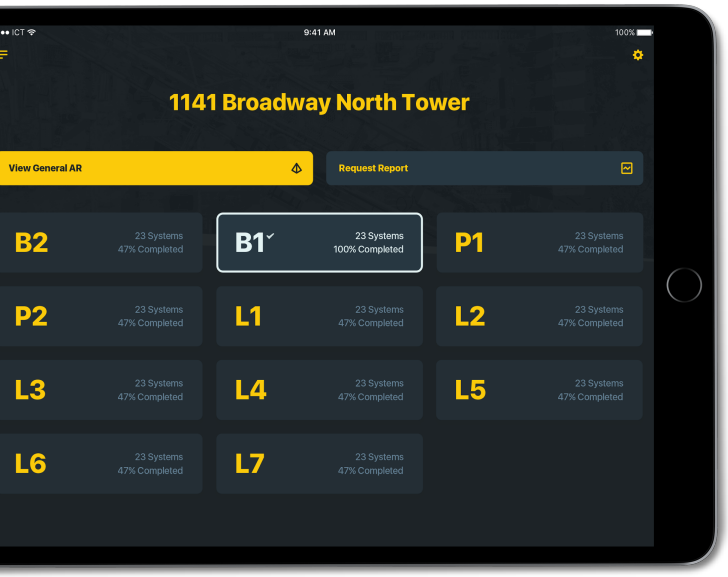

Sources:
[1]https://www.marketwatch.com/story/the-construction-industry-has-a-productivity-problem-and-heres-how-to-solve-it-2017-03-04
[2]https://www.assignar.com/construction/productivity-in-construction/
[3]https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/imagining-constructions-digital-future