



The Digital Black Hole

Impacting the Construction Industry

Introduction

Let's face it, for an industry that uses increasingly cutting-edge technology to execute their clients' complex projects, companies in the construction industry still struggle to embrace tech that provides the same level of precision for the internal workings of their businesses.

'digital black hole' has formed in the construction industry. It's a widespread problem that attributes to some of the inefficiencies that cause large projects to run on average 20% longer to finish than scheduled and up to 80% over budget.¹

Moreover, construction companies are spending an average of 90 hours each month searching for assets across construction sites. And yes, that can add up fast. One elevator company found that it was spending \$200,000 USD annually in time and cost for asset management.

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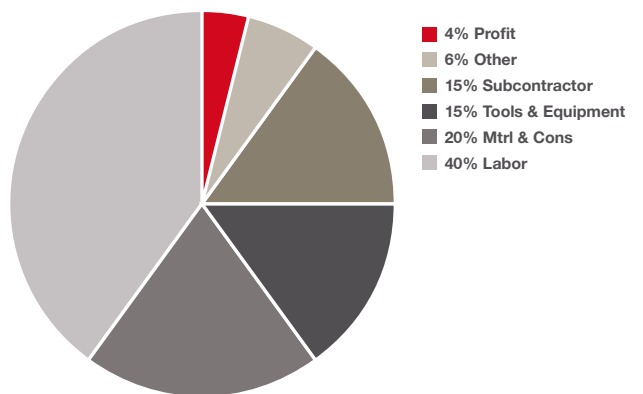
In fact, the McKinsey Global Institute's Industry Digitization Index, rated construction as the second LEAST digitized sector in the world.

With relatively few construction companies digitizing their assets, business processes and working practices, a

Top costs for a construction company

Labor; material and consumables; and tools and equipment are a construction company's top three expenditures. They're also the most difficult to manage – especially when using a patchwork of paper-based systems, sticky notes, and spreadsheets.

This way of working is neither transparent nor accountable, and it's easy for asset management to become dependent on specific individuals – meaning it's difficult and complex for anyone else to pick up the



baton if a key person is out of the office.

Such systems also have negative cost and efficiency implications for managing both physical and administrative assets.

Labor in the construction sector

44%

of firms report increasing construction prices due to labor shortages.²

80%

of construction companies can't find the workers they need.²

It's no secret that labor costs and labor shortages in the construction industry are on an upward rise. One survey found that 80% of construction companies can't find the workers they need.² To combat this trend, firms need to improve jobsite performance and become even more productive.

Labor efficiency is the basis of most tender estimates, as well as the yardstick by which performance is measured and monitored. However, labor efficiency is very closely related to physical resources and ability in terms of knowledge and skills.

Advancements in technology are making management of labor productivity more predictable by exposing business inefficiencies. This can help improve planning and overall profitability.

To calculate labor productivity in your construction business, you could ask yourself the following questions:

- ▶ How much work can a group of 20 workers get done in a day?
- ▶ If the number of workers is fixed, how many days do you need to complete the job?
- ▶ If the days you have to complete the job are fixed, how many workers will you need to finish in time?
- ▶ How much time can you save on finishing one part of the job if you invest in equipment that works faster?

Tool and equipment usage

65%

of companies have difficulties tracking tools and equipment

7k

is spent annually on lost tools, materials, and equipment

Mending the digital black hole in the construction industry; and, more specifically in an individual construction company, starts with prioritizing digital technology. In turn, this creates data – a lot of data. Key data items can then be identified to enable quicker action for potential problems or applied to cultivate positive outcomes for future projects.

In construction, the industry's digital adopters are harnessing IoT with the help of smart batteries – to prevent issues like not knowing an asset's

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location, usage information, and maintenance status.

Smart batteries are equipped with built-in battery diagnostics that sync with a connected tool to relay information that provides a holistic view of the item including the battery performance levels, location, and usage data. This provides key information to

team members in real-time, which enables more informed tool crib decisions.

Smart batteries

a battery equipped with built-in battery diagnostics that is capable of syncing with a system to provide



users key insights (e.g. battery health, location, usage information)

Connected tools

a tool that is equipped with technology (e.g. software, and sensors) to collect the tool's data and connect it to a system

Material & Consumables Inventory Management

At a time when profit margins are getting tighter, and cost of materials are rising (10% increase in construction material costs in 2019),³ the use of paper-based inventory management systems that are dependant on people are impossible to justify.

A digital asset management software connected to smart batteries and tools allows for leveraging predictability by monitoring inventory through a cloud-based platform. Since it efficiently tracks inventory and the usage of materials and consumables (such as nails, bolts, and tool inserts), better estimates for ordering can be made before a project ever breaks ground. This can prevent duplicate assets and decreased productivity due to waiting around for the right materials. Psst – an astonishing 35% of construction time is spent on non-productive activities.⁴

Digital asset management software also helps control loss during an ongoing project by monitoring consumables usage and any unauthorized removal of equipment or tools.

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Final Thoughts...

While the digital black hole may be common in the construction industry, digitizing asset management is an opportunity. An opportunity to better control costs, reduce losses, and keep projects running on time.

Digital solutions like smart batteries, connected tools and digital asset management software are increasingly easy to use and relatively inexpensive to implement. With the right choice of construction technology will more than pay for itself very quickly – by cutting costs on physical assets, by freeing up staff time for more productive purposes, by eliminating the delays caused by a paper-based system.

REFERENCES

1. "Imagining construction's digital future" <https://www.mckinsey.com/business-functions/operations/our-insights/imagining-constructions-digital-future>
2. Eighty percent of contractors report difficulty finding qualified craft workers to hire as firms give low marks to quality of new worker pipeline <https://www.agc.org/news/2019/08/27/eighty-percent-contractors-report-difficulty-finding-qualified-craft-workers-hire-0>
3. "Construction material prices increase steadily in June" <https://www.bdcnetwork.com/construction-material-prices-increase-steadily-june>
4. Plangrid <https://constructionblog.autodesk.com/construction-industry-statistics/>

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