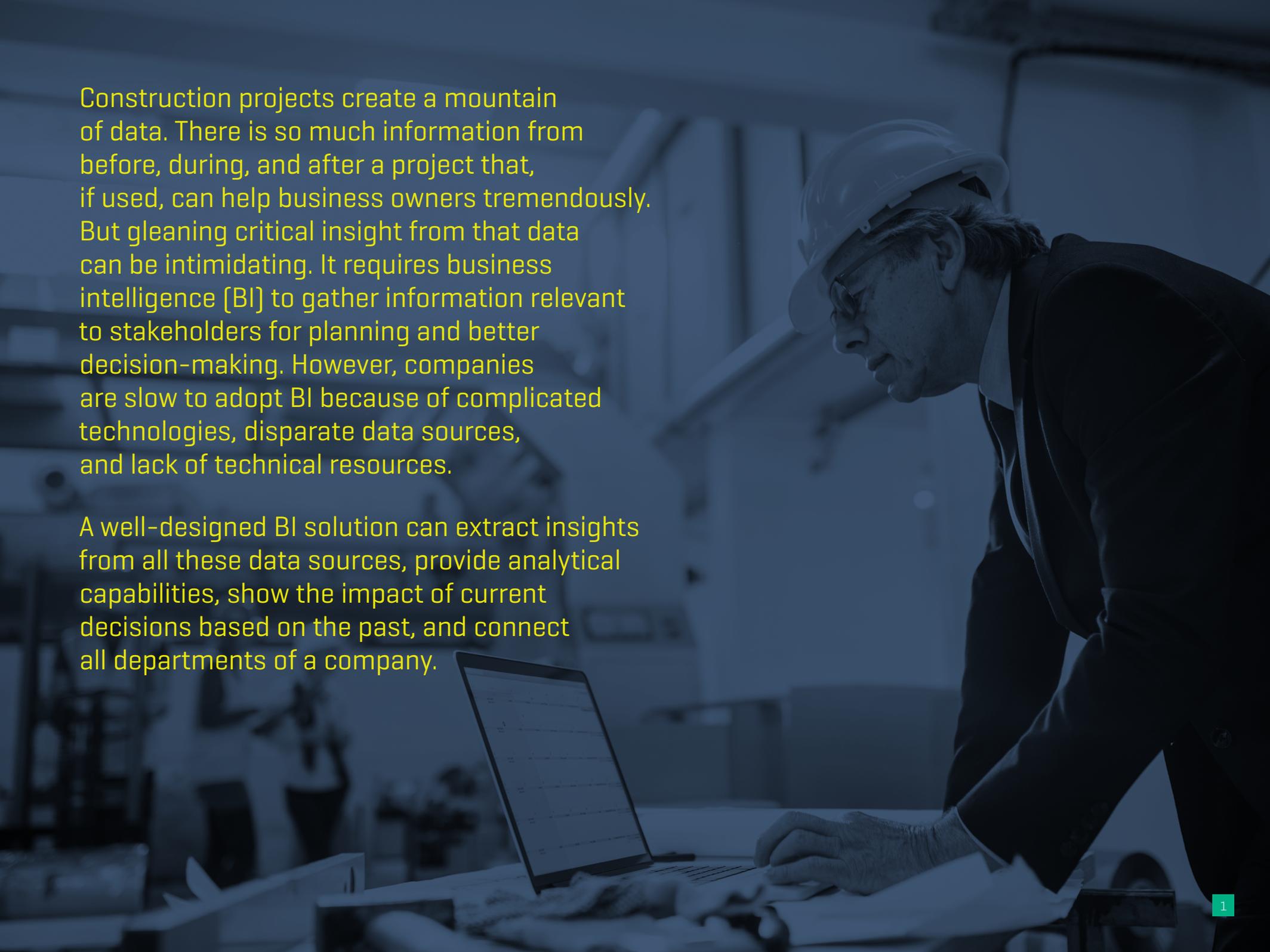




VIEWPOINT

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HOW TO LEVERAGE BUSINESS INTELLIGENCE FOR YOUR CONSTRUCTION COMPANY

A construction professional wearing a white hard hat and safety glasses is leaning over a table, working on a laptop. The background shows a construction site with various materials and structures. The entire image has a blue tint.

Construction projects create a mountain of data. There is so much information from before, during, and after a project that, if used, can help business owners tremendously. But gleaning critical insight from that data can be intimidating. It requires business intelligence (BI) to gather information relevant to stakeholders for planning and better decision-making. However, companies are slow to adopt BI because of complicated technologies, disparate data sources, and lack of technical resources.

A well-designed BI solution can extract insights from all these data sources, provide analytical capabilities, show the impact of current decisions based on the past, and connect all departments of a company.

BI ALLOWS COMPANIES TO GET A HANDLE ON THESE ASPECTS TO GAIN A MEASURABLE COMPETITIVE EDGE:

1 **COST CONTROL:** With margins hovering between 2 percent and 3 percent, it doesn't take much to wipe out the entire profit of a project. Cost and performance analysis leads to better financial health and allows companies to set goals and track them effectively. Labor cost reports and cost summary reports allow you to compare actual costs to budgeted costs and take action where necessary.

PROBLEM: Cost Management. In an industry where "35 percent of costs are accounted for by material waste and remedial work," it's essential to track costs and reduce spending on each project.¹ But this can be a daunting task if the goal is to track data across projects. It's difficult to track expenses beyond the project level, such as tracking equipment inventory in a particular region, determining costs by supplier, or calculating spend for a certain type of project.

SOLUTION: Manage inventory and costs in every process from bidding to building so each project can be monitored by job, by supplier, by region, etc.

SCENARIO 1: Tracking costs and reducing spend. Companies often face penalties for delays and defects but often don't know how best to avoid those occurrences. One solution is to monitor which suppliers have a high rate of defective materials going to projects. Chances are good someone on the team has a hunch about this, but those thoughts aren't captured, aggregated, and shared throughout the firm. As a result, companies keep using that same supplier, getting defective materials, and losing money. With BI, managers can track each supplier on every job and across all projects to understand the quality of work—and take action to improve the situation.

¹ <https://www.forbes.com/sites/bernardmarr/2016/04/19/how-big-data-and-analytics-are-transforming-the-construction-industry/#330f182c33fc>



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SCENARIO 2: Preparing more accurate estimates and bids. In a low-bid situation for a government contract, every penny counts to win the deal and come away with a profit. Costs can't be based on best guesses and a project leader's experience. A BI solution enables managers to easily gather accurate micro-data on similar projects they've done to create more accurate estimates and bids—even at the last minute. Some in the industry say the worst day is the day a bid is won when many wonder, "why were we the lowest?" With a BI solution, companies can know.

2

SCHEDULING, PLANNING, AND COLLABORATION OPTIMIZATION: BI enables operational teams to track complex projects with huge amounts of data easily and ensure that schedules are achieved, resources are appropriately allocated, and teams are coordinated.

A proper schedule analysis report can tell whether the project is ahead or behind and help identify causes for the delays to help you avoid them in the future. Status reports on field logs allow you analyze patterns, uncover issues, and prevent damages.

PROBLEM: Poor Scheduling, Planning, and Collaboration

Inefficient scheduling and collaboration add costs and reduce productivity. It's difficult to plan effectively or work together when data is not readily accessible by remote team members and those working in the field.

SOLUTION: Optimize collaboration, cadence, and scheduling of subs, deliveries, and equipment with a solution that makes real-time project data easier to find and work with by everyone on the team at each location. Track progress on projects, anticipate delays or changes, and adjust across the project and company. Crews will also be more efficient when they have remote access to data, punch lists, safety observations, BIM—from any job site and on any device.

SCENARIO: Managing day-to-day operations in the field. Your crew completes only 90 percent of the estimated number of feet per day today. It needs to know immediately that it now needs to complete additional feet every subsequent day to get back on schedule. When crew managers know each day where they are in relation to the schedule or budget, they can make adjustments more quickly, making up the difference and mitigating other possible effects related to the changes. Data is critical to help you gain insight from prior projects and plan better for current and future ones. BI allows managers access to real-time data and provides tools for better collaboration and decision-making at each stage of a project.

3

RISK MANAGEMENT: Construction is a high-risk business, from cost overruns and schedule delays to safety issues and legal matters.

Risk management is one of the most difficult aspects of project management, requiring the identification and analysis of root causes and a timely response. BI can help pinpoint risks at an early stage so you can mitigate them as best as possible in the most cost-effective ways.

PROBLEM: High Risk

No firm can afford to mismanage risks related to safety, contracts, defects, costing, and slowdowns. Yet there's no easy way to review that kind of data for a complete picture of where the risks are, much less how to mitigate them.

SOLUTION: Monitor contract requirements, legal restrictions, and safety issues by project and by locality. BI solutions enable managers to measure micro and macro items and make meaningful decisions that reduce future risks and improve all aspects of the bottom line.



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SCENARIO: Tracking safety incidents across projects. Proper safety programs can't be built and implemented if companies aren't monitoring the types of safety incidents that occur across projects. That increases the likelihood of a lawsuit or penalties if someone gets injured. [In 2016, OSHA increased fines for safety violations by 78%, creating a maximum penalty of \$12,471 for serious violations.²] These incidents also increase costs and expenses related to insurance premiums, damages, and delays from lost workdays.

CONCLUSION

BI has moved from a nice-to-have to a must-have for construction firms of all sizes. The insights to be gained can give you a better picture of your entire business, its projects, and the ability to make smarter decisions so you can:

- Reduce risk
- Improve staffing, equipment, and scheduling
- Manage costs
- Evaluate whether a project is worth pursuing
- Identify the projects best for the company, and the ones to avoid
- Respond rapidly to opportunities and increase revenues

These competitive advantages sound great but, at present, can be difficult to realize. Implementing a BI solution could be a daunting task because of costs, maintenance, and the complexity of integrating different sources. Luckily, there are partners available to help companies gain the power to tap into their data.

² <https://www.osha.gov/Publications/OSHA3879.pdf>



ABOUT VIEWPOINT

Viewpoint provides cloud-based software solutions to the global construction and capital project industries, bringing 40 years of experience to more than 7,000 customers. Viewpoint's integrated suite of solutions for office, team, and field address the full construction life cycle from planning/bidding to construction and facilities maintenance. Solutions are offered on a variety of platforms, including cloud, mobile, and on-premise. Headquartered in Portland, Oregon, Viewpoint is technology partner of choice, with customers in more than 28 countries. www.viewpoint.com