

How to Build an Effective Data-driven Culture

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The departments such as Administration and Human Resources is not currently well known for leveraging data effectively, nor for using cutting-edge analytics to make informed business decisions so is sectors such as Education and Construction. One survey by Cornerstone Projects notes that as many as 85% of companies experienced delays on construction projects.

This is understandable, on the one hand, because, after all, construction industry is an industry where much of the work is done on the ground— by hardhat workers, not machines. But, on the other hand, it is quite strange. Projects within the education and building industry have an impact on millions of lives— and go into billions of dollars. Why is this industry not supposed to benefit from the technological advances that other industries have experienced?

When a multinational conglomerate company Larsen & Toubro embarked on a project on modernizing their \$10 billion construction business, they recognized the cultural issues they needed to address, in addition to the technology-related challenges. Their ultimate goal was to leverage the power of data-producing computing technology to significantly improve core operations using staff, equipment, and resources to save money, improve productivity, and cut down on execution times. However, underlying these organizational priorities was the fundamental need to ensure that both management and staff interacted with these technologies at all levels and that the team was able to make adjustments to improve their performance based on analysis of the data generated by the technologies.

The cultural challenge to secure the adoption of these technologies in the field — and to create a data-driven mindset — is significant. According to an article by S.N. Subrahmanyam the CEO and Managing Director of Larsen & Toubro less than 20% of the Larsen & Toubro workforce uses computers or handheld devices on any construction job site. Managers simply did not think about how data could be used to improve performance. For a workforce adapting to a data-driven mindset, a change of this magnitude can be overwhelming. It took time and effort for managers to understand how access to real-time analytics on projects can create an integrated mix of technologies like artificial intelligence, the Internet of Things, virtual reality/artificial reality, robotic process automation, and geospatial and cybersecurity technologies — could be used.

To unlock the value of data and to develop a data-driven mindset below are some of the lessons for corporations:

Digital can't just be a team. Everyone needs to develop a digital mindset within the organization. It is important to appoint a digital officer in each business unit, as well as digital champions at all levels of an organization, in order to bring about change at every level.

1. You need to be bold, decisive, and ready to make adjustments.

When it came to widespread modernization and data-driven efforts, there are few — if any — existing models in the engineering and construction industry for us to learn from. Keep in mind that your organization, industry, and technologies will be constantly evolving and changing.

1. Data-driven analytics should point toward improvements vs. punishment.

Between sensors on workers' helmets and equipment, it wouldn't be surprising if Larsen & Toubro construction employees felt as if management was hovering over their shoulders when they were implementing the change. And while unproductive workers and unsafe practices need to be identified and rooted out, it was important to us to use data to determine where additional training was needed, where procurement could be improved, and whether workflows needed to be updated. Engaging staff in a data-driven mindset means communicating how data can be used to help employees succeed.

1. It's important to communicate how the data is benefiting employees and projects.

For employees to embrace a data-driven mindset where there wasn't one before, a concentrated communications effort is needed. Employees need top-down reminders to think "data first," and their efforts to do so need to be recognized. Don't take for granted that employees should be able to see the data-driven improvements all around them. Communicate when benchmarks are established and where there are improvements in key metrics.

Just as importantly, it is crucial to illustrate to staff, on every level of the company, how data is helping employees perform better and how it is helping the company as a whole to operate more effectively.

1. You need to measure what is really important.

Having a data-driven mindset doesn't mean measuring everything, especially in the early stages. It's difficult to go from collecting little data to amassing data on every person and process without creating "data fatigue." If you measure everything, it is easy to lose sight of the most important areas.

Establishing a data-driven mindset throughout an organization is just the first step. Maintaining that mindset until it becomes part of the culture is the ultimate goal. Done successfully, this mindset will create a proactive and engaged workforce that has a greater understanding of how they are performing and insight into where improvements can be made.

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