Roadblocks for EPC companies:

How ERP systems can tackle the most complex EPC challenges

CEM
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Introduction

Today, more than ever before, companies are searching for ways to revolutionize their systems for workplace resilience. Companies in the engineering and construction (E&C) sector that are on the lookout for ways to reinvent themselves will gain a significant competitive advantage.

Just look back at the global financial crisis of 2008. Studies showed that companies that were proactive in embracing the necessary tools to adapt found success – in spades. In fact, BCG reported that the top performers saw a 25% increase to their EBITDA margins on average.

Fast-forward to 2020. A report by McKinsey & Company (August 2020) found that companies can capture 30% revenue growth by implementing new technologies and integrating data-based tools through the use of artificial intelligence (AI) and machine learning. It was stated in the same report that digital and analytics (DnA) played a critical role in addressing challenges that arose at the start of the COVID-19 crisis (while also boosting profit margins in the sector by three to five percentage points).

So, what does that look like for E&C companies? Think automation, contactless interactions and optimized remote-servicing abilities. Engineering, Procurement and Construction (EPC) companies need to find and implement solutions that impact all stakeholders, increase field productivity, provide a better employee experience for union employees and contractors, and connect the field to the office more efficiently.

As EPC companies look to adapt new technologies, it is vital to find solutions that address their biggest challenges. This paper specifically addresses those challenges, including the following:

- Disconnected systems
- Lack of standardization between systems
- Incomplete visibility

Moving forward, companies that can tackle these challenges will gain an advantage, cut costs and be more productive – win-win on all counts.

Disconnected Systems: The Dangers of Incomplete Data

Between architects, engineers, project managers, foremen and individuals controlling the back-end processes, the stakeholders in today's engineering, procurement and construction (EPC) companies are varied and scattered widely.

As companies embrace next-gen technologies such as smart watches, drones, AI- and IoT-enabled equipment and devices, more data will be produced. With multiple players and complex layers, data will continue to be dispersed across various environments, making it harder to access real-time data. Add to that the challenges involved in getting all of your isolated systems to 'talk to' and 'translate' information to each other in one cohesive integration.

Enter the 'disconnected ecosystem', or the unintegrated collection of insights and analytics, that experts have termed as one of the top challenges for EPC companies.

Collecting data and information between multiple systems and platforms involved in today's E&C projects is a tedious, unsecure and inefficient process, involving multiple touch points and oftentimes producing incomplete information that is riddled with errors. In the finance side, the amount of time taken to close the monthly statements takes weeks. Even with proper processes that enable frequent reconciling in place, closing the books is a painful and time-consuming process.

The numbers speak for themselves:

- 28% of construction firms in the UK say that lacking the information they need on-site is the single biggest factor impacting their productivity
- 60% of general contractors see problems with coordination and communication between project team members and issues with the quality of contract documents as the key contributors to decreased labor productivity
- 35% of construction professionals' time (over 14 hours per week) is spent on non-productive activities including looking for project information, conflict resolution and dealing with mistakes and rework

Instead of sorting through isolated data in spreadsheets, construction companies need to embrace an approach that is 'model-based and data-centric, simultaneous and collaborative'.

If construction companies – which belong to the largest industry in the global economy – want to drive growth for future success, they need to be able to make important decisions with accurate information. In order to make these decisions, all of their stakeholders need to be able to quickly access data.

The good news? Integrated, data-driven solutions provide opportunities for EPC companies to combat these challenges and provide a one-stop shop for stakeholders.

By connecting data for easy access, companies can:

- Reduce project costs
- Decrease lag time
- Increase efficiency & productivity
- Efficiently flow data from the field to office with no impediments
- Speed up process of closing books
- Improve client and contractor engagement
- Free up CFOs and members of finance teams to focus on more strategic priorities

Lack Of Standardization Between Systems: Dampener On Profit Margins

You'd never ask your personal trainer to create a workout plan based on the notes from your nutritionist.

Why? Each profession has its own language and skill set and asking one to work based on the other's evaluation requires translation to meet the desired outcome.

The same argument should be made with your construction and ERP software.

Today's construction professionals are finding ways to leverage their technology to become more competitive, and rightfully so. Research by the McKinsey Global Institute indicates that digital transformation can result in productivity gains of 14% to 15% and cost reductions of 4% to 6%.

However, since the construction industry routinely engages in complex projects, often the new technologies they employ are very specialized.

While your software may be connected, each software operates for a specific purpose – not as part of an end-to-end enterprise system. When a software isn't using the same metrics or operating within the same performance management as another, it increases the inefficiencies within your company.

When it comes to digitizing your systems, this negative impact leads to:

- Miscommunication
- Inefficient use of time
- Lack of interdepartmental coordination
- Duplication of work
- Inaccurate reporting of data

Construction companies need to standardize processes, operations, and project reporting across their entire enterprise.

Driving change through standardizing technology ensures process efficiency and quality, while also leading to quicker adaption within the ecosystem.

There are also other benefits to standardized digital platforms, including:

- Mitigated risks
- Cost effective
- Improved communication and reporting
- Improved management and maintenance
- Seamlessly share communication between departments
- Improved security
- Improved data visibility from the C-Level, down

A 2019 report by McKinsey and Company reported that an E&C company gained an enterprise-wide view of element volumes through digitizing and standardizing element data. This allowed them to standardize specifications and aggregate purchase orders to obtain savings. Another E&C company improved its project margins by 3% to 5% by using advanced analytical techniques to analyze past bid data and identify ways of optimizing bid selection and pricing for current and future projects.

The good news? There are construction-specific solutions that standardize processes and software across the organization so they speak and understand one another, and work toward the same goal.

Incomplete Visibility: Drain On Time, Resources and Energy

"**We need to improve productivity.**"

You can hear the PMO's directive repeating over and over as you shuffle through paper reports, yet again.

Your project has already been delayed. As you anxiously wait for construction materials, you're thinking about the extra $100K in wasted equipment fees.

To make matters worse, your morning is nearly wasted searching for information, waiting on approvals or confirmation of your new subcontractor's active certification or requesting the status on shipping and costs. You can't help but think that this scene is too familiar. It's like the construction industry version of Groundhog Day.

When the project is over, you may be missing data due to the highly fragmented nature of your construction software. That makes it nearly impossible to measure overall project performance and pinpoint areas of improvement.

There is a disconnect among key players on projects, including subcontractors, field staff and office personnel. There is also a lack of overall project visibility among EPC projects, making it difficult and expensive to track, communicate, and dissect the ROI of large-scale investments in real time.

This lack of project transparency prevents optimal field productivity.

Dodge Data & Analytics reported that only 11% of contractors rated their jobsites as very efficient. Added together with lukewarm estimations of their company's overall efficiencies, the majority belief in EPC companies is that their office efficiency rates as mediocre. How does this correlate to productivity? Of those surveyed, 44% said labor productivity impacted jobsite efficiency, and 29% blamed jobsite logistics.

What makes "mediocre" alarming is that the construction industry growth is trending upward.

A 2019 report from Frost & Sullivan projects that:

Buildings and civil infrastructure will be the fastest-growing segments in emerging economies from 2018 to 2030.

The construction industry will account for 14.7% of all global economic output, with spending reaching $17.5 trillion, by 2030.

China, the U.S. and India will account for 57% of all global growth.

In order to thrive during the next decade, companies need to invest in technologies that capture the hard-to-capture data between project managers, superintendents, subcontractors and developers.

Luckily, there are user-friendly, project-driven solutions that highlight inefficiencies without requiring project managers to be everywhere at once. Embracing construction-specific tech tools creates greater jobsite visibility and exploits vital data captured.

Construction software are an investment. Therefore, it's vital to make an investment in a solution that:

Integrates jobsite data and AI among all platforms and software.

Tracks data through time and attendance solutions, wearables or daily logging technologies designed for the job site.

Solves pain points involved with project management by addressing workflows, digitizing paper processes, embracing AI or bringing a digital personal assistant to track your daily activities.

Provides simple, functional reporting capabilities that are modern and intuitive.

We Can Help:
About CEM Business Solutions

At CEM Business Solutions, we help Engineering, Procurement and Construction (EPC) businesses achieve their complex business goals by driving the digital transformation needed to succeed with innovative processes, solutions and tools specifically created for the field. Our trusted consultants evaluate, research and implement digital EPC service for project-driven industries, such as Construction, Energy, Oil and Gas.

Meeting your expectations is our priority. At CEM Business Solutions, we strive to provide seamless, fully-integrated, high performance solutions to enhance your business objectives. Since 2003, our dedicated consulting team has rolled out more than 350 implementations across 19 countries and 3 continents.

We understand your industry. We have nearly 20 years of experience providing digital EPC service and implementing solutions based on Microsoft, empowering customers like you with field-ready solutions for:

- Construction Management
- Microsoft Dynamics 365
- Project Service Automation
- HR & Payroll
- Daily Log & Attendance

CEM CEM Business Solutions is the only company who complements its knowledge in the Engineering Procurement and Construction industry with solutions based on Microsoft Dynamics 365 for U.S. Payroll, HR, Recruit, Union & Certified Payroll.

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50 Chestnut Ridge Rd, Suite 103 Montvale, NJ 07645
info@cembs.com | +1 201 391-5345 | www.cembs.com