Transforming Your Enterprise Resource Planning Software Through Strategic AI Augmentation

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Long supply chains. Dispersed assets. A distributed workforce. Multi-faceted and dissimilar projects. Federal, state, and local regulations.

The day-to-day challenges faced by CEM — construction and engineering management — companies defy any software system's attempts to standardize and manage them. Their projects are so diverse that one system typically does not fit all the needs of any given project. This is compounded by the fact that the sophistication of IT products and services differs from vendor to vendor. What needs to be tracked and checked can vary greatly from job to job.

CEMs typically own off-the-shelf enterprise resource planning (ERP) systems with little customization, making them inflexible and limiting productivity gains. As a result, employees and managers spend a lot of time wrestling with multiple systems or ad hoc solutions rather than focusing on the core of their job.

An ERP is an excellent way to gain control of assets, billing, purchasing, internal assets rental and payroll management, among other key functions. However, in business, every time-consuming data and business process problem that can't be executed by an ERP becomes a corner case.

THE MONUMENTAL GROWTH OF CORNER CASES

Because most ERP implementations are too rigid to quickly or effectively adapt to the dynamic operations of CEMs in the necessary timeframe, the scale and variety of corner cases is

exploding as businesses attempt to adapt to rapidly changing commercial environments. To complicate things further, rarely have all operational departments been addressed by the ERP integration.

Consequently, individual offices have come up with their own solutions for corner cases and other processes which have been left out of the ERP plan. These data sets which contain a lot of contextual data — critical for AI uses as well as data democratization efforts — are part of business processes employees perform outside of the company's digitized workflow. As a result, they are not easily made available enterprise-wide, for executives and employees, to enhance the understanding, management, and control of company operations.

This, along with excess time spent on disparate systems, has hindered increases in productivity, reduced the ROI on ERP systems, and hampered the addition of practical and useful ERP advancements.

That said, construction and engineering management companies have certainly increased productivity by utilizing purchased or licensed ERP platforms. This typically comes from being able to create a macro understanding of a large organization and the ability to dive deeper into the workings of that organization. Traditionally this is done through financials and, more recently, through tracking the actual delivery of products and services to lower equipment-use costs and increase coordination between different departments. These integrations typically include the outline of what is happening and not the details or contextual data.

Examining the big picture, workforce and profitability pressures make generating new levels of productivity gains critical. Increased ERP capabilities have been sought to meet these data-management and reporting needs. Add in the desire to harness the power of AI in reporting and problem solving, and executives at CEMs see the need for an ERP transformation.

Most ERP transformations essentially tear down and rebuild their existing ERP platforms with new functionality, which is costly and time consuming, without fully addressing many of the corner cases and previously neglected processes. History is lost and between the start of planning the transformation and the final implementation, business processes have again changed and the cycle starts over.

An ERP by itself is simply not flexible enough, almost by definition, because of the extensive planning and imposed uniformity of similar processes across divisions. Even worse, revamping ERP systems can't be done quickly enough to meet the fast-changing construction and engineering management business environment. This means the very processes that a company is looking to manage within the ERP platform have likely changed since the ERP transformation plan was made.

That is not to knock the quality or value of an ERP. In fact, they are powerful and useful tools. Instead of replacing one ERP with another, an ERP transformation through AI augmentation is the better approach for CEM companies.

THE NEED FOR CONTEXTUAL DATA

ERPs have the potential to touch, transform, and drive significant efficiency in almost every part of a business' operations by making it possible to track productivity. But to drive higher levels of real productivity, there is a need for contextual, granular data. AI systems are more effective if they are as situationally aware as the humans who operate them. They invariably will fail if they are not situationally aware.

For example, a rental service can use its ERP platform to calculate the number of rentals and average turnaround time for a given asset. But information which can help executives to better understand the reasons for delays in turnaround time cannot always be teased out because the ERP does not typically have enough context data to answer those questions.

BUSINESS PROCESS CAPTURE

CEMs must typically capture, document, and integrate all business processes affecting a productivity goal in order for the next wave of AI systems to improve productivity. To do so, a company must capture, examine, and digitize all procedures that affect a given goal. This goes well beyond simply capturing procedures and looking for ways to digitize them.

AI networks that augment an ERP have the potential to become its improved user interface. This interface is no longer fixed but highly flexible and more aware of what the user wants to accomplish, what data they need, and how to best present it. This expands what is possible for capturing business process data, while making data democratization goals more practical. Acting as the new ERP user interface, AI networks demonstrate key capabilities that traditional ERPs lack.

For example, when an employee enters information into forms, that information is typically a small fraction of their activity surrounding any given action item. Therefore, ERPs need to be fed all employee procedures to completely gain control and efficiency of business operations. This means integrating both the data and the procedures with the ERP platform, which is easy to do through AI augmentation.

INFORMATION AND INNOVATION

AI systems have the potential to improve and revitalize ERP assets by aiding decision making, automating communications, and facilitating data research for problem-solving or data

analysis. This provides CEM executives with the ability to move beyond just data, to really analyze information and uncover opportunities to innovate.

Strategically layering intelligent AI networks on an ERP platform reduces employees' need to perform additional spreadsheet calculations. Adding in AI agents can supplement ERPs and increase the amount of information captured for future queries and analysis, as well as provide more informed answers from your AI systems.

AI agents are designed and targeted to improve productivity around specific operations by reducing the time spent wrestling with ad hoc systems and broadening who can see and act on the additional captured data. Companies' middle-management more frequently spends its time performing data management than people and project management — resulting in unmeasured decreases in productivity and employee satisfaction.

For example, if asked, a traditional ERP implementation will report an employee's total compensation versus how the components of compensation, such as meal allowances, bonuses for overnight shifts, travel time, etc. are calculated. This requires mid-level managers to spend time gathering and tabulating that data.

Companies can harness the power of AI agents to dynamically interact with people, databases, and specialized tools throughout ERP workflows. These intelligent AI agents accept requests from employees, access information from databases, and other data sources, solve tasks, and provide results in an easy to consume manner.

Well-configured AI agents provide more flexibility for innovative actions by employees while adhering to the fundamental business rules needed to ensure database and company policy compliance.

Conducting an ERP transformation through targeted AI-augmentation provides the benefits of capturing key business processes and data at a granular, contextual level and supplementing process automation through AI integration. Moreover, it will be done more effectively, targeting the data and processes critical to big productivity gains first — and at a much lower cost — while keeping pace with the ever-changing business environment for CEMs.

About the Author

Ken Fischer is the CEO of Atigro, a proven ERP transformation firm that pairs its modular augmentation capabilities with AI-native frameworks. Atigro's experience and capabilities generate the rapid development and provisioning of new ERP functionality that meets dynamically changing business processes.

About the Article

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