



Whitepaper

Putting AI into ERP the Where, What, and How of Success

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Introduction: AI Is No Longer a Hype

Imagine a scenario where a real-time ERP system converts a purchase order into jobs and schedules. These are fulfilled in factories by machines that self-optimize, while warehouse stock is instantly optimized. Meanwhile, virtual agents continually update operators with progress reports.

This scenario is fast becoming a reality today, through the integration of standard ERPs with Machine Learning (ML) and Artificial Intelligence (AI). This powerful combination is convincing Business Leaders, CIOs, and IT managers that AI has moved past hype. Now these executives are looking closely at what AI technology can do for their businesses.

The greatest challenge is to identify *where* AI will have the maximum impact and reap the greatest benefits; *what* type of AI initiatives the business should be undertaking; and *how* to implement Smart Automation as a step towards becoming an Intelligent Enterprise.

Where AI Can Be a Success

Applications of AI cover a wide range of functional areas, so organizations must decide where AI will have the biggest impact. This will typically be in value-added business areas: for example, in retail organizations it will be the marketing and sales function; in advanced manufacturing it will be in operations.

To drive the greatest value, AI should cut across marketing, sales, supply chain management, and manufacturing. A McKinsey study (McKinsey Global Institute April 23, 2018 report [Notes From the AI Frontier Insights From Hundreds of Use Cases](#)) shows that AI can create \$1.4-\$2.6 trillion of value in marketing and sales across world businesses and \$1.2-\$2 trillion in supply chain management and manufacturing. It is no coincidence that organizations typically have an ERP backbone spanning these areas, which already does the heavy lifting of running the business. Embedding AI into ERP is therefore a key requirement in the drive to optimize and modernize business processes.

Choosing the business processes for automation and developing good use cases for AI is crucial. Typically, the focus should be on repetitive, background tasks, which can be automated to improve efficiency and reduce errors, freeing personnel for more added-value roles. Other sound use cases are adopting AI to augment human abilities in order to provide new market insights, predictions of customer behavior, improved decision-making, or reduced operating costs.

What Type of AI Do You Need?

In order to realize the potential of AI with ERP, we believe that organizations should look at three parallel initiatives: Touchless ERP, Predictive Analytics, and Intelligent Issue Resolution. Each of these technologies is able to leverage underlying traditional analytics techniques that pre-exist in the business to make tasks faster, easier, more efficient, and productive. As a result, AI can be economically introduced in a relatively short time-frame to improve business performance.

Touchless ERP

In the current business landscape, there are numerous examples of “touchless” AI to automate a workflow, such as invoicing or fabrication. Fully Touchless ERP achieves a far higher level of automation, thereby ERPs become complete, connected, and intelligent cloud suites.

Implementations of Touchless ERP are already here. They combine a touchless digitization engine, Robotic Process Automation (“software robots” that perform tasks automatically), and APIs in a non-intrusive manner to highly automate processes. This combination dramatically drives efficiency: in one organization, complete traceability and visibility of warehouse stocks and tasks has been achieved, resulting in 18% improvement in order fulfilment, with over 60% of transactions, now automated through Touchless ERP.

Predictive Analytics

Sophisticated AI-driven analytics are rapidly becoming embedded within ERP. Predictive Analytics, which uses machine learning algorithms and statistical analysis techniques, is not only extracting data from these systems with ease, but also analyzing the data to spot trends beyond what a team of data scientists could achieve.

A practical example is in sales forecasting, where Predictive Analytics is helping one organization to achieve 99.5% forecasting accuracy. What’s more, the accuracy of these analyses and predictions will continuously improve through machine learning. It is a win-win scenario that will help Predictive Analytics and Machine Learning (PAML) achieve annual growth of 21% between now and 2021, according to Forrester.

Predictive Analytics also combines with the inter-networking of physical IoT devices (Internet of Things devices). This universe of sensors captures real-time information including video, audio, and data, to accelerate deep learning of existing operations. One of its greatest values is in predictive maintenance, which determines when failures to operating equipment will occur or when maintenance will be required.

When field service employees arrive, they will also interface with ERP and sensor data. An AI-powered digital assistant can provide root cause analysis and evidence-based recommendations to help speed maintenance tasks, even feeding data directly to a technician via augmented reality glasses.

Intelligent Issue Resolution

While traditionally associated with social media and customer-facing support, AI-based chatbots can play a much deeper role within a business. Chatbots now improve internal business processes, intelligently resolving issues at higher speed. They are being deployed to guide employees and make ERP data more easily available. Employees increasingly query chatbots and rely on AI to figure out what data should be pulled from an ERP system, to provide the right business answers.

The cycle then begins: as AI technology learns the different ways in which an individual user interacts with their ERP systems, optimization will occur. The chatbot can now deliver a cognitive, persona-based approach to improve user interaction, tailored to specific problem areas. When integrated with ticketing tools and backend systems, the future development and improvement of an ERP system can be based on past learnings and implemented, for example, with different workflows or reconfigured user interfaces.

The key to improved adoption of chatbots in the enterprise space is firstly to define clear parameters for the task the bot is resolving; and secondly to encourage regular use through an engaging User Experience (UX). An ERP solution is complex: using a chatbot to access ERP and business data should not be.

How Organizations Should Develop a Roadmap

Organizations with a “cloud first” strategy have a head start with AI. Deploying ERP on the cloud and cloud-ERPs is an essential requirement in the transformation towards a digital Intelligent Enterprise. These organizations can deploy and leverage multiple technologies: the Internet-of-Things (IoT), Machine Learning, Chatbots, Predictive Maintenance, Blockchain, and Big Data.

A “cloud first” approach will also see your internal Line of Business (LoB) applications become cloud-based to reduce costs, provide faster application development, and meet rapidly changing business needs. These LoB applications—such as Ariba, Coupa, SuccessFactors, and Hybris—provide real-time integration with SAP ERP or SAP S/4HANA. The latter platform also accelerates the next step to realizing AI in ERP: creating a digital core on a public or private cloud, and deploying ERP as a single platform for business.

Using embedded AI, the digital core will bring together people, processes, machines, and analytics. SAP S/4HANA already incorporates AI scenarios aimed at industries such as manufacturing and professional services, which can be supplemented by specialized AI and automation tools, such as plug-and-play RPA software bots.

Central to developing your roadmap is IoT integration, which goes far beyond simply collecting data in real-time. Integrating an end-to-end AI solution including, but not limited to IoT sensors, IoT data in the cloud, gateways, protocols, UI's, and robotics technology is complex, and demands a strong business case. However, the results of creating an intelligently interconnected enterprise will give committed organizations first-mover competitive advantage. McKinsey estimates that IoT will have a total potential economic impact of \$3.9 trillion to \$11.1 trillion a year by 2025. The stakes are high, and the race to build an Intelligent Enterprise with AI is on.

“76% of executives expect cognitive technologies to “substantially transform” their companies in three years or less.”

Source: Deloitte

“By 2021, a fifth of the largest manufacturers will depend on a secure backbone of embedded intelligence, using IoT, Blockchain, and cognitive, to automate large-scale processes and speed execution times by up to 25%.”

Source: IDC

About the Author



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Makarand Deolalkar is Executive Vice President at LTIMindtree. In the course of his 35+ year career focused on the ITeS industry, he has handled complex business challenges, and led global business growth. He has set up and executed large multi-location, multi-year global sourcing projects. As a global business leader, he has delivered innovative and transformational strategies and solutions. Makarand's extensive command over the SAP business landscape strategically positions LTIMindtree to enable its clients to transform to the Intelligent Enterprise with SAP S/4HANA, Cloud, and IoT services.

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