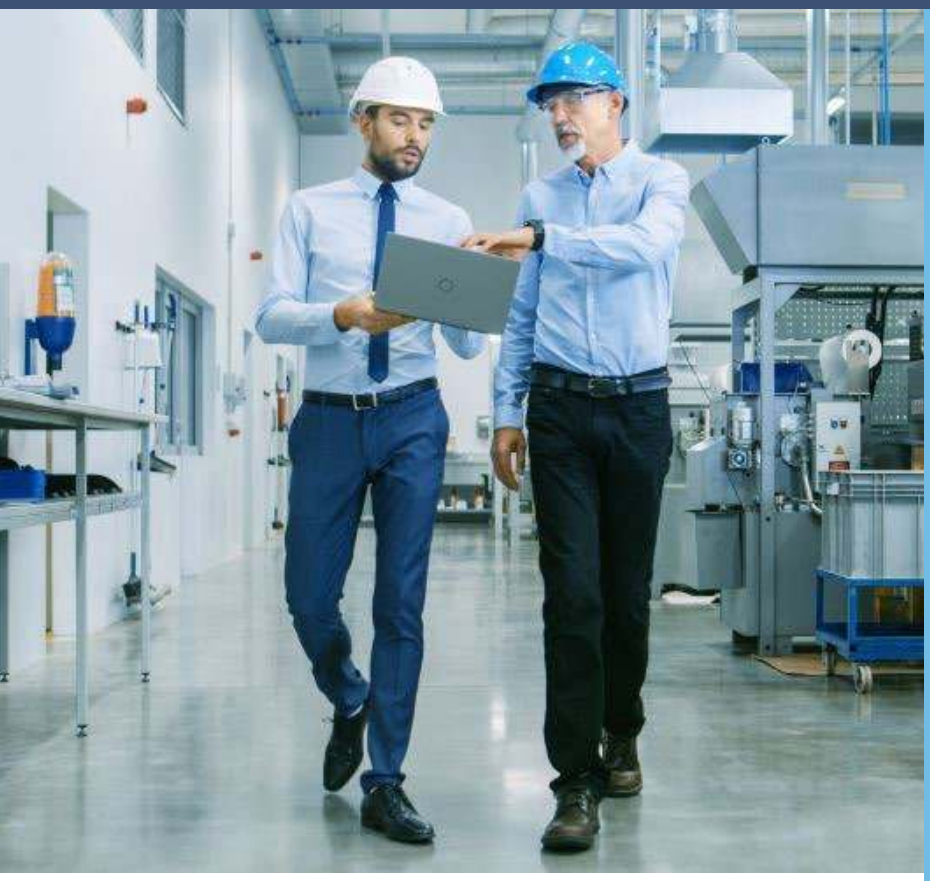
The Copley Consulting Group

ERP in the Age of Digital Transformation: A Guide for Manufacturers



Benefits of Modern Enterprise Resource Planning

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1 Introduction

Just 20 years ago, ERP was an exclusive software, adopted only by those with the vision—and the resources—to independently integrate the technology into their operations.

Today, it's safe to say that ERP has entered the mainstream. In fact, it is considered by many to be the gateway technology – if not a prerequisite – for greater digital transformation within manufacturing operations.

Up until recently, the concept of "digital transformation" was still an abstract one – a buzzword sometimes dropped in strategic planning meetings to never be carried out. Now, leading companies are showing that they mean business. With the adoption of sophisticated digital technologies on the rise, ERP has kept pace, evolving from a seemingly daunting implementation fraught with upfront costs and heavy infrastructure to a leaner, more economical operational investment. Lower costs and simpler, SaaS-supported rollouts have made ERP an option for more businesses than ever before. And competitive companies of all sizes – including small and mid-sized manufacturers – will find they need to step up or risk being left behind.

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In this eBook, we explore ERP's new place at the heart of Manufacturing's digital transformation. From business analytics to artificial intelligence and the Internet of things (IoT), you'll learn about the cutting-edge technologies that are being integrated into next-generation ERP systems.

2 Benefits of Modern ERP

Like so many other industries, the manufacturing sector has been affected by competitive forces both domestic and abroad, largely driven by advancing technologies. To remain competitive, many manufacturers have had to redefine how they do business.

Be it the product itself, the processes driving production or the partners and customers met along the way, the ERP system has become central to making operational improvements in the modern age.

Here are three benefits manufacturers stand to gain in leveraging a leading-edge ERP system.

1. AUTOMATION

The manufacturing industry has made tremendous strides in automation in the last decade. Not every manufacturer is equipped with the latest specialized technologies, but companies with a modern ERP system are able to use built-in automation tools to set several manual processes to auto-pilot. The effectiveness of ERP-enabled automation has only increased as ERP software becomes "smarter." Many ERP platforms are now equipped to analyze how users navigate the system and make recommendations on how to automate processes even further to fit a user's usage behaviors.

Altogether, this means fewer man-hours spent on mundane, labor-intensive tasks and more time freed up for cognitive functions and mission-critical activities.

2. STRATEGIC SERVICE ARRANGEMENTS

As manufacturers look for new ways to increase efficiency and ramp up productivity, more support services are being outsourced rather than handled in-house. In addition to payroll and marketing, one of the major items on this list is IT. Cloud-enabled ERP systems allow manufacturers to hand the software maintenance reins over to a trusted software-as-a-service (SaaS) vendor. Engaging in this sort of long-term service arrangement rather than cutting ties after launch allows your ERP partner to become a valuable resource in how you think about your processes and your business. As manufacturing businesses are "digitally transformed" and more technologies are added, SaaS partners can help manufacturers work through integration challenges – and recognize new, tech-driven business opportunities in the process.

Per IDC, by 2018, 35% of line of business leaders will demand intelligent ERP solutions to improve their business processes and resource utilization. (IDC, Four Ways Intelligent ERP Applications Deliver Value to Your Organization, 2017)

3. GLOBALIZATION

Today's supply chains are no longer limited by the logistical hindrances of the past. Products and source materials can be delivered across the globe more quickly and economically than ever before.

With this change comes the need to also gather and access data from various locations. Cloud-enabled ERP has opened new doors for manufacturers with multiple facilities. Now, ERP software can be universally deployed in a matter of clicks, with each instance customized for local considerations like language and currency. Once in place, data is synced in real-time from multiple sites so both global employees and global partners can access up-to-date design and distribution information, no matter where they are.

3 Building Blocks of Next-Gen ERP

The ERP system remains at the core of many manufacturers' IT infrastructure, but as new technologies are developed, manufacturers must remain nimble by utilizing an ERP system that can be updated to incorporate leading-edge tools. Here are four such tools to be on the look out for in emerging ERP software and updates.

Business Analytics

Turning raw operational data into actionable insights used to be a time-consuming task requiring a high level of expertise. And if you chose to do the analysis in-house rather than hiring a consultant, your only option was expensive business intelligence software that had to be purchased separately before being integrated with your ERP system (if it could be integrated at all).

Today's leading software vendors now offer business analytics as a built-in component of their ERP packages. In fact, business analytics is becoming so synonymous with ERP systems that some say the distinction between them is beginning to blur.

Are you making the most of your ERP system's business analytics functions? Here are three areas where we have seen the biggest returns.

Productivity & Performance

When an issue arises somewhere in your supply chain, it has the potential to seriously impact your manufacturing timelines. Being able to quickly identify the problem area is critical to an effective and efficient resolution.

Data-driven ERP systems make it easy to get ahead of issues by facilitating up-to-date monitoring of your business's key performance indicators (KPIs). Home screens can be tailored to each user, complete with performance gauges, navigation shortcuts, process flows and advanced reporting tools. C-level executives can get a bird's eye view of weekly stats, and floor managers can keep up with numbers by the minute. With the ability to hone in on unexpected trends and discrepancies, leaders are more equipped to provide proactive problem-solving support in lieu of putting out fires.

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Sale & Operations

The key to balancing supply and demand is successfully harmonizing your sales activities and your operational capacity. ERP-enabled business intelligence helps integrate sales, production, inventory and finance into a lockstep effort that increases fill rates, better manages your inventory and maximizes profits.

One of the most important tools for sales and operations planning is an annual operating plan (AOP). Having a master plan enables leaders across departments to realize overarching goals for the business at the outset and to monitor performance against those goals on an ongoing basis. An analytics-powered ERP system will assist in identifying supply and demand problems like timely delivery issues, overproduction and shortages for products that are backlogged. You'll know when you're falling short of your goals and why – and be given corrective actions on how to fix it.

Advanced Forecasting

Successful manufacturers know that their bottom line depends as much upon fulfilling current orders as staying ahead of their customers' needs. For many companies, this has historically meant trying to predict future stock requirements with error-prone spreadsheets and a padded inventory.

Today's ERP systems are equipped to automate forecasting and calculations of optimal safety stock levels. Data such as past sales (dollars) and usage (units) are collected and combined with valuable customer or team member input. No more crunching numbers in Excel. Algorithms and what-if analysis allow the data to be processed automatically, and results are displayed graphically to the user. When a new competitor enters the market or a business opportunity presents itself, forecasts can be adjusted to account for shifting market conditions, so optimal inventory levels can be achieved no matter the circumstance.

Artificial Intelligence (AI)

We don't have to look too far back in cinematic history to find what were then considered far-fetched depictions of the future: robots who can understand and speak natural language and "digital assistants" ready to provide instant answers to our queries.

Today, thanks to emerging artificial intelligence (AI) technologies, these "futuristic" scenes are now a reality.

These are the very early – and very exciting – days of AI in the business world. Experts are still unable to predict the reach of its effects, as developers see endless applications across industries. For manufacturers, one certain opportunity for AI is its integration with ERP software. Together, the technologies are expected to deliver the following benefits to savvy manufacturers who are ready to take the plunge.

Smarter Business Intelligence

While it has long been relied upon as a data aggregator, ERP software will have the capacity to deliver even more complex insights when paired with artificial intelligence. AI technologies allow larger data sets to be analyzed, including historical data. This can be especially valuable for conducting predictive analysis or making recommendations based on established patterns among past behaviors. For instance, an AI-enabled ERP system could look at several years' worth of past sales during fair-weather versus harsh winters to help anticipate inventory needs for the next holiday season.

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Automated Workflow Management

On average, workers spend about one-fifth of their time looking for information or a colleague to help execute a given task. AI-enabled ERP systems could help minimize these headaches by providing an intelligent framework to automate workflows. This is often a gradual process, begun with a user making a decision that triggers a series of actions that is recorded by the software. The next time that same decision must be made, the system could make a recommendation based on previous user behavior. Once the recommendations have been vetted and approved, the system could take that action automatically, with users reviewing exceptions as they arise. The result? Workers who are free to focus on activities that demand expertise and creative thinking rather than laborious, mundane tasks.

A Competitive Edge

As technologies evolve, so, too, must an organization's skills in leveraging them. In the years ahead, competitive companies will invest in replacing legacy ERP systems with advanced software that can be updated to keep pace with emerging functionality. Forward-thinking manufacturers are already beginning to design pilot projects for AI-enabled ERP. Those who embrace AI as an integrated part of ERP software will find it to be a critical tool for optimizing existing processes, enhancing organizational efficiency and ultimately reducing operating costs – altogether, giving them the edge to get ahead, and stay ahead, of the competition.

Blockchain

Not familiar with blockchain? Chances are you've heard of its most famous application. Bitcoin, a blockchain-based currency system, is the first digital currency system to work without a central bank or common administrator. Deemed "the people's currency," bitcoin relies upon the unprecedented security of blockchain technology to remain fully democratic in function.

How does blockchain work, and how might it be put to use in the world of manufacturing? Read on to learn more about this powerful technology and its potential implications for next-generation ERP.

What Is Blockchain?

Simply put, blockchain is a peer-to-peer database technology that allows users to create a ledger of records called blocks. Each block is time-stamped and typically contains a cryptographic hash of the previous block, to which it is linked. Each unique block is linked to an individual participant. Altogether, this system creates a sort of unending "receipt" that permanently records all transactions. Because of this infrastructure, blockchain is innately resistant to data modification. When updates or changes are needed, a consensus between participants in the system is required, as no block can be retroactively altered without altering all subsequent blocks in the chain. Likewise, data that has been entered can never be erased.

Blockchain in the Business World

The biggest benefit of blockchain is its inherently heightened level of security. Experts are now looking at how, in addition to currency, blockchain may be leveraged in the business world. For example, although we are in the age of "big data," enterprise data is largely still siloed. This affects not only a company's ability to securely share data amongst its employees but also with its partners. Sharing data is still perceived as a leap of faith, in which companies risk losing their competitive advantage. Once business intel is out of your hands, where might it end up and how might it be used?

Blockchain aims to solve this problem by creating a system of trust among its participants. Each and every transaction is permanently tracked. And because the system is not regulated by a single control center, there is no sole point of failure. This decentralization virtually eliminates the need for IT monitoring of a blockchain database. Because of it is open source, experts believe the blockchain platform will excite developers and its use will grow quickly. Suitable blockchain applications that have already been identified include transaction processing, medical records, voting, and supply chain management.

Blockchain & ERP

New use cases for blockchain will continue to emerge as the technology takes hold. However, one area of opportunity is integration with ERP. Many see this as a way to heighten system traceability, step up recall prevention, and enhance audit-readiness, all of which are particularly valuable to medical device manufacturers and those working in FDA-regulated industries. Blockchain-ERP integration may also enhance asset management capabilities, allowing information related to manufacture, shipment, storage, failure, and maintenance to be efficiently and securely stored. Blockchain would not replace ERP systems. Rather, it would provide a software-neutral integration tool. By integrating their ERP systems with blockchain, several companies operating disparate ERP systems could, in effect, access the same blockchain database. The result? A single indisputable record that all parties hold in agreement.

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What role will blockchain play in the ERP systems of the future? Only time will tell – but we may find out sooner than you'd think.

The Internet of Things (IoT)

Fitbit. Amazon Echo. Nest Thermostat. While the Internet of Things (IoT) may not be a household phrase, its effects are felt by most Americans whether realized or not. Objects equipped with data-capture technologies are now collecting and transmitting information on everything from temperature and air conditioning to location and movement. What doors do these insights open for manufacturers?

Improving Operations

The success of your manufacturing operations already depends on the performance of sophisticated equipment. However, when integrated with IoT, the manufacturing floor is transformed into a highly connected cyber-physical system. Depending on the setup, machines may be recording and sending data – or they may also be configured with instructions to act on certain inputs. This ability to analyze and act upon data inputs is where the value of IoT lies.

Manufacturers who are able use IoT technologies to glean information on usage and performance – and then feed and apply this data through their ERP system – will be able to quickly respond to and proactively prevent operational issues. With intelligent equipment, manufacturers can:

- Prevent production delays
- Predict maintenance needs and how they will affect uptime and performance
- Carry out critical repairs as quickly as possible
- Reduce energy usage

Increasing Value to Customers

By leveraging these same tools, manufacturers can track data related to not only a product's movement through the supply chain but also its performance aftermarket. Many manufacturers are designing products to emit a sort of "digital exhaust" – or a data stream containing usage metrics such as speed and energy consumption. Using these insights, manufacturers can deliver additional data-driven benefits throughout the customer lifecycle, including the ability to:

- Better forecast spare parts needs globally so they can be delivered in a timely manner
- Analyze real-time data from channel partners to make better operational decisions (e.g., identifying a defect yet to be identified in a production run)
- Consider a dynamic pricing model, where availability and urgency can inform pricing and fulfillment decisions
- Create digital platform where customers can manage warranty claims and schedule services in one place

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The result? The value proposition for data-enabled companies moves from their core offering to include the insights gathered and value-added services recommended along the way. For example, Fedex has noted that the data they can now report about their packages from their IoT platform SenseAware has become more valuable than the package itself.

Conclusion

To reap the benefits of next-gen ERP in manufacturing, you'll need ingenuity and tenacity – but also a great deal of expertise. With unprecedented data streams, you'll need both the know-how and the resources to integrate various software, including your ERP system, in order to combine and leverage raw data effectively. The ways you store and manage data may also need to be rethought.

Laying the groundwork may seem daunting, but for manufacturers who see the long-term value of this investment, the time is ripe to seize a competitive edge before this quickly emerging technology enters the mainstream.

About The Copley Consulting Group

For nearly 30 years The Copley Consulting Group has delivered Infor CloudSuite™ Industrial (SyteLine) implementation success to more than 400 enterprises. From Fortune 1000 companies to start-up operations, Copley has provided education, training and technical services melded with a focus on Best Practices. As one of Infor's premier Gold Level Channel Partners, Copley has assembled a team of dedicated professionals committed to increasing the productivity and profitability to our customers.

For more information about our Infor CloudSuite Industrial (SyteLine) system implementations contact a Copley Consultant at 855.884.5305 or sales@copleycg.com.

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