How to Navigate Today’s Supply Chain Challenges
Beat, Compete, or Retreat?
Table of Contents

Navigating Supply Chain Challenges 2
    Epicor ICE 2
    Streamlining Communication 4
    Demand Requirements Planning 6
    Actionable Analytics 7
    Business Everywhere 8
    Engaging Business World Wide 9
    Beat, Compete, or Retreat? 10

About Epicor 11
Introduction

Enterprise resource planning (ERP) systems are taking an increasingly prominent role in managing a wide range of business activities. Traditionally, ERP served as a system of record and managed common tasks, transactions, and disparate business processes across the organization. However, businesses today face increased pressure to modernize the user experience as Mobile, Analytics, Social, and the Cloud have increased user expectations. Likewise, as businesses look to establish themselves as preferred trading partners, strive to remain nimble to cope with economic uncertainty, or extend services and products to new markets and geographies, greater demands are now placed on the software used to run and manage the business. Therefore, ERP has evolved to meet today’s business and user-driven challenges. Essentially, the role of ERP has expanded to consider new technology forces that impact the way users interact with systems and new models for software deployment.

Figure 1: The Expanding Role of ERP

With the proliferation of smart phones and tablet computers we are no longer deskbound, and prevailing attitudes lean toward being able to access and interact with information anywhere we have internet or cellular network coverage. This means that business software must not only contain embedded business intelligence, but it must also be device independent and provide tools to support the development of purpose-built applications. Simply, consumer-grade mobile applications have led users to appreciate and expect highly personalized systems. This simply isn’t possible with older ERP solutions and to support the rapid pace of technical change today’s ERP is built on a agile business architectures that meet all of our different hardware/device needs and can be tuned and retuned as needed to meet the demands of business without costly source code modifications. Finally, broadband technology, cloud computing, and software as a service (SaaS) allows application providers to deliver businesses secure, rapid access to new applications that do not require extensive up-front investment in infrastructure.
These fundamental changes in technology and related user behaviors provide business with great opportunities and challenges. It is not enough to have the right strategies and supporting policies place, the right foundation is necessary to enable effective execution.

Navigating Supply Chain Challenges

Epicor Software Corporation is a leading developer of ERP systems based in Dublin, CA, with more than 30 years’ experience in building ERP systems for customers worldwide. Mike Tatara, a product marketing manager at Epicor, is experienced as both a user and implementer of technology. His background includes more than ten years’ experience in retail and wholesale distribution before joining Epicor in 2010. He has held a variety of front and back office leadership roles that involved the implementation of ERP and WMS systems.

Tatara cites several issues that are important to companies engaged in managing supply chain challenges in today’s business environment:

- Dealing with the complexity of managing a global supply chain
- Using business intelligence and automation of processes to improve accuracy and service levels
- Managing the increasing volatility of changing market demands
- Collaborating internally and externally to make better business decisions
- Controlling costs or growing capabilities to increase revenue for the company

“These are the kinds of issues that Epicor ERP is intended to manage,” Tatara says. “The features and capabilities that Epicor brings to the market in our technologies have been tested and proven over 30 years and in thousands of installations worldwide.”

Epicor ICE

ERP implementations almost always require some degree of customization in order to suit a company’s unique business processes. Sometimes these customizations can add considerable time and expense to an ERP initiative, and may require additional internal or consulting expertise to complete. Historically, maintaining these customizations was also expensive. Doing them again to support moving to newer versions was so cost prohibitive that users could not afford to keep systems updated on the latest technology.

The Epicor innovative ICE architecture makes it possible to customize and personalize the application at the business level through logic that doesn’t touch source code. Therefore, significantly less investment is required to tailor the solution. The underlying technology that supports the system applications can be updated without requiring new customizations to the application itself. Furthermore, the tools in ICE provide visual tools for orchestrating business processes and workflows without extensive programming knowledge. They are part of an overall framework that enables users to create highly personalized dashboards and virtual work environments that can be updated as roles and needs change. Likewise these tools allow mobile users and users who spend most of their time in Microsoft® Office applications to interact seamlessly with
Epicor ERP, which drives productivity and efficiency throughout the organization.

ERP systems may also need to interface with specialized applications that enable the business to perform specific operations that support core business processes. Epicor has minimized the time and expense of integrating its ERP system into existing corporate systems through the use of a technology called Service Connect. This technology eases the process of integrating ERP to these mission critical applications by:

- Streamlining the coding efforts required to connect applications
- Incorporating workflow and system orchestration using visual designers that require little or no programming effort
- Automating business processes, including task assignments, logical routing, and human interaction
- Making it easier for users to eliminate non-value added activities to promote lean principles throughout the system.
- Leveraging the power of Service-Oriented Architecture (SOA), thus allowing the use of XML for mapping between systems and providing a complete audit trail.
Streamlining Communication

The telephone used to be the primary way of keeping in touch with trading partners. Today, the wide adoption of the Internet by businesses and consumers has provided new and more efficient ways to connect. “Epicor believes that e-commerce is an integral part of ERP,” says Tatara. “While the task of establishing an online presence can be daunting, the Internet is an increasingly important way of expanding and protecting your brand, as well as a way to form tighter relationships with customers and end consumers.” Some of the benefits of using e-commerce in a supply chain include a lower transactional cost, increased accuracy, sales growth, and a shorter cash cycle.

Epicor offers a flexible and integrated Commerce platform for building B2B and B2C Websites. It provides scalable tools for marketing, operations, and IT. Some of the features that increase Epicor Commerce’s flexibility and usability include:

- Advanced product search
- Filtering and categorization
- Search engine optimization (SEO)
- Upsell capabilities
- Advance promotions
- Product rating and review integration
- Integration with social media

These features are managed from a single management console that simplifies keeping the business’ site(s) up to date. The Commerce management console (see Figure 2) is designed to allow an end user, not an IT person, to manage product or container content and information, or to change layouts and add new pages as needed. This makes it much easier for a business to keep Websites fresh and up to date, a key to maintaining site traffic.

Figure 2: Epicor Commerce Management Console
implement bold Web strategies that tap new revenue streams and dramatically improve customer interaction.”

The Epicor Commerce platform also enables your ERP system and the Commerce platform to share the same database, and allows real-time communications between these systems. This is an important part of making e-commerce work; if the ERP system and the e-commerce system can’t interoperate, then all supply chain efficiencies can’t be realized, so the best approach is to make sure that the e-commerce system and the ERP system work together. It is important to note that standard, out-of-the box integrations will be less costly to maintain.

“The Web store might be the virtual face of your organization,” says Tatara. “But you still need a very powerful back office. Epicor ERP coordinates all the transactions generated by your Web business and your front-office activities, with full visibility across the organization.”

Another common and widely used format for business to business communications is Electronic Data Interchange (EDI). Larger trading partners often require EDI capability and use it as the primary means of transacting business between suppliers and customers. The challenge for many businesses is that implementing EDI can be resource intensive, especially difficult for smaller companies to justify.

“To ensure that all customers can leverage EDI, Epicor offers several ways to deploy and manage EDI processes, from a traditional on-premise offering to a cloud-based managed service,” said Tatara. Both solutions provide a comprehensive electronic solution for business-to-business communications in virtually any format, including XML and AS2.

As part of its solution, Epicor provides the value-added network (VAN), which serves as the clearing house for EDI documents. Epicor can offer a lower per-transaction cost than other systems; the size of its network means that it enjoys a certain scale of economy and is able to pass cost savings on to customers. The Epicor VAN also features a portal interface that reduces the user’s management costs. The Epicor VAN offers the ability to track EDI documents in numerous ways and allows both technical and non-technical users to view documents in an appropriate format. This makes it easier for business users to track EDI documents quickly without the need to consult technical staff.

Another way that Epicor ERP speeds the flow of business is through customer and supplier portal content. Through Web-based portal capabilities, external trading partners are able to view data about pending transactions, thus eliminating latency in the flow of information by virtue of 24/7 availability. Internally, Epicor ERP encourages collaboration through Microsoft Share®Point by providing connection and document management tools that allow business leaders to publish important ERP data to individuals in the organization who work primarily outside of the main system.
Demand Requirements Planning

Thriving when customer expectations are high, or during a tough economy means nailing down the three W’s of holding inventory—what, when and where. Optimizing inventory leads to customer satisfaction and long-term sustainability, therefore Epicor offers robust inventory management capabilities aimed at meeting the needs of mid-market distributors. The Epicor Distribution Requirements Planning (DRP) provides capabilities to help companies that need to manage a significant number of SKUs, are trying to cope with significantly long / variable product delivery lead times, and need to boost buyer productivity and reduce inventory holding costs. The DRP is made up of five core modules that can be configured in a variety of ways to meet many different planning scenarios:

The Demand Planner is an advanced statistical forecasting engine that graphs future demand based on an analysis of past usage; sets reorder points and confidence levels for maintaining safety stock buffers.

The Requirements Planner makes time-phased purchase, transfer, or work order recommendations based on net demand against a location and overall network inventory levels.

The Economic Order Manager supports the Requirements Planner, setting order quantity recommendations based on a number of factors—supplier targets and incentives, container constraints, and carrying costs—to establish an optimum reorder point. The Economic Order Manager also handles the ranking of products and the cost associated with maintaining desired service levels.

The Supply Base Manager maintains a performance record for each supplier and updates lead times and safety stock levels in the requirements planner.

Exception Signals prevent frustrating service-level failures by sending alerts to all parties who need to take action when certain events occur, for example, exceptional usage or when forecast error exceeds user-defined tolerances.

Figure 3: Demand Requirements Planning

Source: Epicor Software Corporation
Epicor also provides ways to gain additional business insight, even if a company doesn’t need the full capabilities of a DRP, or manufacturing related capabilities. The system’s purchase management module can make recommendations based on known demand and the system’s Material Requirements Planning (MRP) and Buyers Workbench have a full complement of tools that aid decision-making and execution.

**Actionable Analytics**

The Epicor ERP capabilities are augmented by embedded business Intelligence (BI) features that are accessed within the system. Information is presented to the end user through customizable dashboards. The system ships with more than 100 predefined dashboards based on roles and processes that are common across thousands of ERP implementations worldwide. Epicor has invested significantly in this area because it believes that dashboards should stream from within the ERP system and be deployed within the context of the user’s everyday workflow—used where and when the user needs information for decision making and not accessed through a remote application. Figure 4 shows an example of a typical dashboard, in this case embedded in Sales Order Entry to provide in-context information about the customer, pending orders, and inventory information.

Figure 4: Epicor ERP Embedded Dashboard View

The Epicor dashboards are readily extensible and updateable, which means that it’s easy for any user to create or tailor a specific dashboard to meet his or her requirements. Dashboards allow users to manipulate data and drag columns, subtotals, calculated columns, and other statistics in the same way that data can be moved in a spreadsheet, except that in this case it’s being accomplished within the ERP system. The data fields provide drill down capability to get additional details.

Epicor ERP also provides the capability to compare daily business performance against the key performance indicators (KPI) defined by the company. These results can be used to determine the return on the company’s investment in ERP and to compare real-time performance with stated long-term company goals, thus providing a real understanding of the impact of ERP on managing costs and growing revenue.

“Understanding the day-to-day performance of your business against long-term KPIs is essential to driving continuous improvement,” says Tatara. “The organization is empowered by real and timely knowledge about how their performance affects overall organizational goals.”
Business Everywhere

The last few years have seen a phenomenal growth in the use of mobile devices by consumers and a growing demand for applications that can run on these devices—for both work and play. Expectations will continue to evolve as users become more attuned to mobile devices as a means for creating a more dynamic work-life balance. Epicor has already anticipated this tipping point and has built Enterprise Mobility into its ERP strategy. Essentially, it encompasses the three distinct types of mobility that business need to think about:

Connected Local: Untethered devices that operate via radio frequency within the confines of the plant or warehouse. These are typically used for stock movements, receipt, put, pick, and ship transactions.

Wireless Remote: Specialized/ruggedized wireless internet devices that are used for ERP-related tasks by field sales or field service, such as order entry, checking inventory, or confirming service or shipping information.

Mobile ERP: Users can gain access to the ERP system via the Epicor Everywhere™ framework using virtually any Web-enabled device—smart phone, tablet, or laptop. The Epicor technology is designed to provide the same user-experience regardless of the type of device used and preserves the user's personalized and custom settings.

Enterprise Mobility is just one aspect to maintaining a connected workforce. Within many organizations there are many occasional ERP users and people who never have a need to use the ERP, but still rely on the information provided by the system. The ability to publish information in collaborative environments such as Microsoft SharePoint means that any user can benefit from the system. Epicor can also make information from the ERP application available within commonly used Microsoft Office applications. “You might get an email from a customer requesting information about an order or a shipment,” says Tatara. “But you don’t even have to leave Microsoft Outlook to answer the question.”
Engaging Business World Wide

ERP systems play an important role in enabling companies to extend and control their business operations on a global scale—managing a "virtual enterprise" to introduce new levels of efficiency over the management of data and processing of transactions. “The ability to manage a highly distributed enterprise is built into Epicor ERP,” says Tatara. “This level of functionality is rarely found in most mid-market systems.”

Without a global management system in place an organization is constrained by the information silos that develop and constantly faced with reconciling discrepancies that naturally arise. However, a virtual enterprise managed via the ERP reduces the amount of time and effort spent on data management and creates a single version of the truth to guide business leaders in decision making. An example of how an Epicor system configured to manage a business with world-wide operations would enable business flows is as follows:

- Headquarters builds information about customers, suppliers, and parts into the system and then distributes the data to other locations to use
- The distributed locations have the ability to manage localized pricing for global parts and customers, but headquarters can maintain a centralized purchasing function on behalf of all locations
- When a remote sales representative logs in through a Web portal to configure a product order for a customer, this is a single operation for the salesperson. However, once the order has been saved, background processing of the order begins in the system and global business management rules are applied to the order
- If necessary the system initiates the financial tasks to support the order, for example, checking the customer’s credit across all company locations and consolidating all the details into a management report at company headquarters. It will also carry out all intercompany financial transactions
- Part of the order may be in stock in a warehouse and a pick, pack, and ship request would be generated. At the same time, a work order is initiated for production of the remainder of the order in the company’s manufacturing facility. The ERP system synchronizes the entire fulfillment of the order across all locations and plants

Epicor ERP will manage these processes regardless of how the software is installed or deployed. Each company has its own menu and sees its specific information presented in local languages and currencies. Employees can view other companies or locations and transactional information based on individual role and security permissions.
Beat, Compete, or Retreat?

Technology is evolving at a tremendous pace and while many IT strategies are growing more obsolete by the day, consumer driven shifts continue to change how we use technology professionally. Businesses don’t just have policies and strategies to consider, but need to make sure the underlying technology is in place to support execution. All businesses face pressure brought on by smart phones, the Cloud, social media, and a younger, tech-savvy workforce. Businesses stuck on older technology will feel significantly more pain. “Many of the businesses investing in ERP today are small and midsize ones,” says Tatara. “They now have options when it comes to ERP that simply didn’t exist 10 years ago.” Epicor has made a substantial investment in redesigning its ERP software to be both scalable and flexible to meet the needs of companies of all sizes. Likewise, because of its modular design and agile framework, Epicor ERP can be deployed across a variety of industries. Specifically, Epicor enables businesses to meet today’s challenges through its leading-edge technology and robust features.

- A familiar and highly configurable user interface that provides end-to-end functionality and industry-specific modules for complete business management in a single solution.
- A collaboration enabling platform that supports rapid dissemination and finding of information, based on a 100 percent Service Oriented Architecture, Microsoft .NET, Web services, and Web 2.0 technology.
- Tools that support agility, mobility, and customization without extensive programming efforts—business process and workflow management, system integration, smart clients, and business activity management.
- Integrated business analytics designed to provide business insight to all system users and drive stronger business performance through an empowered workforce.

Figure 5: Epicor ERP Solution Diagram

“Epicor ERP is evolving rapidly in response to technical advances and to meet the growing needs of the market,” Tatara concludes. “Epicor continues to keep pace with changing technology and the dynamic nature of business, with the goal of providing tools that help companies to manage an increasingly complex world of business.”
About Epicor

Epicor Software Corporation is a global leader delivering business software solutions to the manufacturing, distribution, retail, and service industries. With more than 40 years of experience, Epicor has more than 20,000 customers in over 150 countries. Epicor solutions enable companies to drive increased efficiency and improve profitability. With a history of innovation, industry expertise, and passion for excellence, Epicor inspires customers to build lasting competitive advantage. Epicor provides the single point of accountability that local, regional, and global businesses demand. For more information, visit www.epicor.com.

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How to Navigate Today’s Supply Chain Challenges

11