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Research Study:

Cloud-Based Business Solutions Suite Delivers Key Performance Improvements to Manufacturing Companies

SL Associates

Sanjeev Aggarwal
Laurie McCabe
Dwight Davis

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Executive Summary

Many firms—including those in the manufacturing sector—have achieved more efficient and agile business operations by using cloud-based ERP

In the popular mind, manufacturing companies are old-school businesses, the polar opposites of high-tech software and services firms. In reality, manufacturing operations are among the most sophisticated users of advanced IT solutions. Factory floors are highly automated and precisely monitored, and they are fed by supply chains and inventories that must be coordinated and optimized. Once produced, manufactured goods must be shipped and tracked through often-complex distribution and retail networks, and a product's quality must be measured and ensured from its creation on the factory floor to its performance at the end customer.

Given the breadth and diversity of their operations, manufacturers must be able to identify and measure key performance indicators (KPIs) for everything from their financial operations to their factory-floor and shipping efficiencies. By doing so, they have a baseline on which to improve and track their critical business processes and to achieve higher levels of business effectiveness and success.

Critical Manufacturing Metrics Extend Well Beyond the Factory Floor

The manufacturing category is among the most complex and challenging of all industry sectors given its blend of physical and IT assets, the scope of operations it encompasses, from supplier sourcing through product delivery, and the range of expertise manufacturing employees must possess. Among the operational challenges:

Operations Challenges

Financial: Manufacturers must track standard financial metrics as well as everything from cost of materials to the value streams of individual production units.

Reporting: Workers ranging from the finance team to factory-floor supervisors and workers need accurate and, often, real-time reports spanning the full range of relevant operations.

Supply Chain Challenges

Sourcing: Manufacturers must track parts and materials availability, costs and quality from both primary and secondary suppliers.

Factory: Manufacturers must measure equipment, as well as worker, productivity and efficiency, production bottlenecks, and many other variables.

Inventory: Inventory levels must be managed and balanced based on orders and forecasts, a particularly difficult task for lean/just-in-time manufacturing operations.

Orders and Shipping: Orders for goods must be closely managed and matched with inventories and production; goods must be efficiently packaged and shipped.

Customers: Manufacturers must ensure their customers, be they distributors or end buyers, are satisfied with the finished products they receive.

KPIs That Matter

Like many of their peers in other industry sectors, manufacturing companies have been investing in cloud applications because of their low upfront costs and faster time to deployment, their highly efficient and flexible functionality and their low IT demands. Given the range and interdependencies of manufacturing operations, a multifaceted suite that integrates many functions on top of a shared-data foundation is especially valuable. That's why many manufactures have been able to measure and improve their KPIs after adopting NetSuite's cloud-based business solutions suite.

By interviewing and surveying representative NetSuite customers in the manufacturing sector, market research firm SL Associates identified which KPIs these companies track as well as the improvements they've realized by basing their core operations on NetSuite's multifaceted business suite.

Deploying the common NetSuite platform as the foundation for their core business processes generated a range of impressive KPI improvements, as illustrated in Figure 1.

Figure 1: Typical Manufacturing Business KPI Improvements

Category	KPI	Results
Business Visibility	360° Visibility & Actionable Insights	Increased **70% - 90%**
Financial Management	Revenue Recognition	Improved **45% - 65%**
	Compliance Support	Increased **25% - 45%**
	Audit Time	Reduced **30% - 40%**
	Reporting Time and Resources	Reduced **70% - 90%**
	Time to Close Books	Reduced **75% - 90%**
	Accounting Staff Productivity	Improved **30% - 50%**
	General Ledger Consolidation	Reduced **75% - 95%**
Manufacturing Visibility and Performance	Staff Utilization	Improved **10% - 25%**
	Inventory Carrying Costs as % of Revenue	Reduced **2% -5%**
	Obsolete Inventory Carrying Costs	Reduced **60% -80%**
	Payroll Processing Costs	Reduced **50% -75%**
	Production Efficiency	Improved **50% -80%**
Sales and Marketing	Sales Pipeline and Productivity	Improved **40% -60%**
	Order Processing Efficiency	Improved **45% -75%**
IT Management	IT Support Resource Costs	Reduction **50% -70%**
	Cost to Purchase and Maintain Servers	Reduction **100%**
	Business Continuity/Disaster Recovery Costs	Reduction **35% - 55%**

Source: SL Associates, 2014

Conclusion

The different types of KPIs shown in Figure 1 represent just some of the business processes and measurements that can help manufacturers determine how well they're performing. Many of the improvements shown spring from the breadth and ease of use of the NetSuite business solutions suite, and its delivery as a cloud-based service.

Finding a business solution suite sold as a cloud-based service has become a highly desired, and increasingly required, purchasing consideration. After all, cloud vendors take responsibility for managing, updating and securing the solutions that run in the cloud.

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Having a reputable cloud provider handle these and other critical business processes frees companies from performing these tasks, which are often outside of their areas of core competency. And, as shown by the following examples of representative NetSuite customers, having a comprehensive and fully integrated business solution suite foundation on which to conduct a wide range of business operations can greatly improve the efficiency and effectiveness of many KPIs that are critical to manufacturers. For additional information about

NetSuite's cloud-based solutions, visit the company's website at www.netsuite.com.

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NetSuite Customer Experiences

CMP Corp.

CMP is a leading HVAC and refrigeration parts manufacturing and distributor, supplying more than 3,000 customers in 95 countries. Based in Oklahoma City, OK, CMP used the Visual manufacturing ERP suite from Infor from 2001 through 2011, but switched to NetSuite's cloud-based suite in 2012.

The Visual suite offered the ability to do deep dives into manufacturing data, but only a few CMP employees had the skills necessary to generate useful reports from that data, explains Adam Harper, CMP's director of administration. "Even with extensive knowledge of SQL, there were so many tables of data that finding the right fields and data was very time consuming," he says. "Our two owners spent 30-35 percent of their time pulling data out of the system for themselves and for others."

By comparison, creating customized reports with NetSuite is much simpler, according to Harper. "NetSuite lets front-line supervisors pull out their own individual data, and they can use their tablets to look at reports." The shift to NetSuite also helped CMP reduce data "noise" and to focus on the information most critical to its operations.

Among the important KPIs for CMP are a variety of financial measures as well as ordering and shipment metrics. NetSuite has helped improve many of these KPIs, Harper says. The company's monthly financial close, which formerly didn't occur until about the 20th of each month, can now be done in as little as three to six working days. Likewise shipping efficiency has "drastically improved," he says.

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Some of CMP's most critical KPI measurements, however, are tied to its factory-floor operations. "Our shop is broken into production cells," Harper explains, "and we track the value-stream income for each cell." That requires CMP to monitor everything from the "operational equivalency quotient" (how often a machine is actually doing work) to the cost of materials to labor, electricity and various non-operating expenses.

Because they can easily create and update their own reports, CMP's production cell leaders can more quickly spot and correct potential manufacturing issues. "Before we deployed NetSuite, we weren't doing a lot of the reports we can do today because it wasn't practical," Harper says. "It would have probably taken from a day to a full week to post the type of information an individual cell leader can now pull up in less than 10 minutes."

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Thanks in part to the ability to more tightly manage its production lines, CMP has realized a number of efficiency improvements. Among other benefits, the company's peak-period backorders have dropped from an average of about $450,000 under a $100,000 average, Harper says.

CMP is still rolling out some of NetSuite's functionality, and expects to use the suite to help improve both its supply-chain and inventory operations. Meanwhile, the fact that NetSuite is a cloud-based solution gives CMP confidence that its functionality will always be available. "In 2003, our facility was leveled by a tornado," Harper says. "So the business continuity that a cloud solution provides is extremely important to us."

NetSuite Customer Experiences

Eemax, Inc.

The leading supplier of tankless water heater systems in the U.S., Eemax sells its like-named commercial-grade products through the plumbing-supply channel, and an EcoSmart brand of consumer products through retail outlets such as Home Depot. The $30-40 million company, based in Waterbury, CT, has 80-90 employees, but no IT staff.

When Eemax set out to replace its Sage DacEasy accounting package in 2010, the company gravitated to NetSuite OneWorld in part because of its cloud-based deployment model. "Having never used a cloud system before, I love it," says David Brault, CFP at Eemax. "Integration is easy, training is easy, and just the speed at which we could start up was remarkable. Any on-premises solution was one headache after another."

NetSuite has helped Eemax reduce its financial close period from as many as five days down to one or two days. The company has also been able to cut its lead times nearly in half. Another important KPI for Eemax is material costs as a percentage of sales. "With NetSuite, we have a lot more information than we did before," Brault says, "and we have confidence that the figures are more accurate."

More broadly, NetSuite has helped Eemax grow without major staffing increases. "Our company has probably grown 40 percent since we got NetSuite, Brault says, "but we've got the same number of people processing AR and AP transactions. If not for NetSuite, we might have had to increase our accounting staff by 20 percent."

Eemax hasn't measured customer satisfaction directly, but "anecdotally, our biggest customers have told us they like the system," Brault says. "We've had plenty of positive feedback."

Data Physics Corporation

A designer and manufacturer of signal analyzers, vibration controllers, underwater acoustic equipment, and other test and measurement systems, Data Physics has its headquarters in San Jose, California, and operations in the U.K., Germany, France, China and India.

The company first implemented a NetSuite ERP solution more than 10 years ago, using it to replace a collection of discrete and poorly integrated software packages. The company was only consolidating its financials once a year, and the process "was a spreadsheet nightmare," says chief operating officer Sabine Castagnet. Data Physics now consolidates financials at the end of each month.

When Data Physics acquired a U.K.-based manufacturer in 2005, it expanded the scope and the reach of its NetSuite solution by adding manufacturing, inventory and routing modules. It added OneWorld functionality in 2011 at both its U.S. operations and its overseas subsidiaries.

One of the biggest benefits Data Physics has realized from its use of the cloud-based NetSuite is that "no IT is needed," Castagnet says. "You can't get better than that." The company's administrative headcount also stayed the same, even as the company's revenues quadrupled.

As it continues to expand internationally, Data Physics is also finding that NetSuite-based operations can facilitate that growth. "If you open a new location, you don't have to worry about business processes," Castagnet says. "You can pretty much set NetSuite up overnight. You only have to worry about the speed of your Internet connection."

NetSuite Customer Experiences

Shaw Industries Inc.

Since its launch in 1971, Dalton, GA-based Shaw Industries has grown to become the world's largest manufacturer of carpets. Also a major supplier of hard-surface floor coverings, the company employs about 23,000 people and generated $4.5 billion in revenues during its last fiscal year.

Shaw uses many proprietary applications as well as PeopleSoft/Oracle software in its domestic operations, but turned to NetSuite OneWorld when it opened a new manufacturing facility in Nantong, China in early 2013. "Our business partners didn't want us to deploy our legacy systems overseas," explains Allen Stephens, manager of Shaw's IS Strategic Planning Group. Among other requirements, the Nantong plant system needed to have a small footprint, couldn't require a large IT support staff, needed to support multiple languages and currencies and had to be a solution that could be brought quickly online.

In addition, "it had to be repeatable," Stephens says, "because the new-plant solution will become our template for facilities in other countries."

After an extensive evaluation of all the major ERP and business suite solutions, Shaw determined NetSuite OneWorld best met its needs. Initially, the fact that NetSuite was cloud based was more of a concern than a selling-point, Stephens admits. "We're a traditional, conservative company, and we had many concerns about putting a lot of our data in another vendor's cloud." After Stephens and a delegation of Shaw employees visited with NetSuite's security and design experts and toured the company's data center, however, "we were sold," he says.

Shaw is currently using a number of NetSuite modules, including its ERP, SuiteAnalytics, Financial Planning and Budgeting, workflow and scripting capabilities. Shaw takes sales orders, purchase orders and customer data from its Salesforce.com system and transfers the data into NetSuite. It has also integrated NetSuite with Tibco's enterprise service bus, which serves to distribute NetSuite data to other systems.

"We were very concerned about integration," Stephens says, " because integration in our legacy world is pretty complicated. We've been very pleasantly surprised with the ease of integration with NetSuite."

Because Shaw launched NetSuite in a new manufacturing facility, the company doesn't have "before and after" measurements for the KPIs it tracks. Still, Stephens says the relative efficiencies of NetSuite are apparent. "When we close our books on a legacy system, it takes our complete financial team the better part of a week each month," he says. "With NetSuite, it takes maybe a day."

Also, unlike Shaw's legacy systems, which typically process order invoices in a batch run overnight, "with NetSuite we can take a customer order, fulfill, ship and bill all in a single day."

The NetSuite system for the Nantong plant is tracking all of Shaw's financials for the Asian/Pacific region, which encompasses 11 subsidiary operations. And the cloud-based NetSuite solution has proven its merits right from the start. "We were very concerned about getting [the NetSuite system] in sync with the launch of the plant," Stephens says. "It came up so easily that we were actually waiting on the plant."