

Integrated Manufacturing Software: The Lean Manufacturing Solution

by thomas r. cutler

LEAN MANUFACTURING PROCESSES are about eliminating waste. In an effort to do just that, eliminate waste, almost half of North American manufacturers with 100+ employees implemented an ERP (Enterprise Resource Planning) software system. Many of these companies are on their third or fourth generation of an ERP system, putting into question how much was wasted by selecting the wrong system initially.

In fairness, ERP systems have gone through iterations and ERP vendors have designed a degree of planned obsolescence to ensure updates, upgrades, and maintenance fees continue to flow into their coffers.

Where the great waste can be found in the manufacturing software process is in the magical word “integration.” While most ERP vendors will make extravagant claims about how various modules from third party software vendors are “simple bolt-on” features, the fact is such constrained integration creates fiscal, management, and operational nightmares.

According to Tom Verzi, Director of Marketing for PRONTO North America, a leading integrated ERP vendor, “It’s like taking a muffler from a Chrysler, an engine from a Ford, and an electric system from a Chevrolet, and contending that it will all work because these are American automobile manufacturers. It just doesn’t work like that.”

With average annual ERP maintenance charges ranging from \$25,000 to \$75,000, manufacturers often weigh the benefits of the new features, advantages of these upgrades, and either choose to have the most current version (supported by the ERP vendor) or hold off.

Where the lean manufacturing process quickly falls apart with ERP systems is when the bolt-on third party vendors are also making upgrades and changes. A manufacturer who has a service module for maintenance and repair may be made to fit the 2004 version of an ERP system. When the ERP vendor upgrades their 2005 version, the service module will require modification to continue functionality. The price is wasted time and financial resources. Next the third party service module vendor makes modifications and now the ERP system must be corrected to continue working. This ongoing situation quickly spirals to a consistent and constant waste of time and money.

According to Verzi, Packaging Incorporated, based in Minnetonka, MN, was faced with this challenge when selecting a new ERP system. “Due to the complexity of their business the company required applications not readily available in “standard” ERP systems.” Packaging Incorporated is a distributor of fastening and packaging equipment as well as fasteners such as nails and staples for the construction industry.

Doug Lowe, VP of Operations for Packaging Incorporated and a proponent of lean manufacturing principles, explained, “The integrated ERP solution

Making Your Company's Web Site Lean

Lean Manufacturing is a process which finds waste far beyond the plant floor, yet more than 90 percent of manufacturers who consider themselves lean have never bothered to examine their marketing communication vehicles, especially, their Web sites. Yes, Lean Manufacturing principles can be applied to manufacturers' Web sites according to Corey Wenger, President of Key-Position Web Marketing (www.key-position.com) based in Indianapolis, IN. Wenger, a manufacturing SEO (Search Engine Optimization) expert, is the first organization in North America to apply the same "kaizan" blitz approach to Web sites to determine if they are producing the desired and measurable results.

Usually a Kaizan blitz is done throughout the factory or plant floor to quickly discern how things might be done better, more efficiently, and to quickly eliminate obvious waste. Wenger suggests the same is true with manufacturing Web sites: "There are just so many obvious mistakes often made by manufacturers when setting up their Web sites that cause poor outcomes and lost sales opportunities."

Wenger has some key questions that assist manufacturers to evaluate their Web sites that can result in a Lean and highly effective marketing tool.

What is the purpose of the Web sites?

- Lead Generator?
- Corporate brochure?
- Sales and Marketing tool?
- Print collateral replacement?

If the website were performing at an optimum level what would be the desired results?

- Telephone inquiry...how many?
- Web/e-mail inquiry...how many?
- Job applicants...how many?

Wenger noted, "Once we understand what the manufacturer is attempting to accomplish with their Web sites and the targeted results, it's easy to look at every Web page and ask whether it is advancing and achieving the desired results. If not, then time to make changes and get lean." Indeed the call-to-action for the reader of these Web sites is often confusing. Is the Web site viewer to call, complete a form, e-mail someone? Is the idea to purchase or simply "kick tires" and view every page? The Kaizan Manufacturing Website Analysis allows a critical analysis of every Web site in measuring whether it achieves targeted results.

The "tweaking" process is equally quantifiable and allows for lean principles to assess the efficacy of Web sites changes. If the goal is to drive a pre-qualified sales pipeline, then such a measurement is implemented. Other measurements such as visitors to the Web site, number of telephone inquiries from the Web site, and ultimately conversion-to-sales data (potential customers who end up purchasing) become highly effective data to analysis and assess the website's effectiveness.

One of the key paradigms that often initiates the Web site analysis is when a high number of web visitors are not converted into actual sales. Conversely, a low number of visitors may have more to do with a lack of public relations announcements and search engine optimization to drive traffic to the site.

Wenger suggests a monthly internal review of the manufacturers' Web site to quantify if the targeted results have remained the same and a lean manufacturing assessment if it achieving those results. "If not performing up to the stated standards and results, the same processes that have revamped the plant floor can and should be used to make the continued process improvements on the Web site."



provided by PRONTO North America addresses our complex needs because unlike other ERP systems, it is a complete and continually evolving solution that provided modules not available in standard ERP systems for the manufacturing and distribution environment." Lowe continued, "We evaluated many solutions during our selection process."

The combination of standard ERP functionality with the following integrated single sourced modules from PRONTO allowed us to maintain a lean operation:

- CRM (Customer Relationship Management)
- Service

- Project-Costing
- Warehouse Management
- Advanced Forecasting
- Point of Sale

Lowes derived a specific lean manufacturing result from the avoidance of constant integration concerns, "PRONTO allows our employees to focus on the business at hand today and will provide for our continued growth as a lean organization."

This manufacturing integration scenario is common. Most ERP vendors take a "spare parts" approach to closing the sale. The lean manufacturing process is not considered for the potential customer, only getting the sale. As a result the direct benefits of ERP, including real time data gathering and reporting, and precise financial visibility, are greatly diminished as glitches in integration consume these discernable advantages. Michael Ligudzinski, CEO of PRONTO North America concluded, "In today's highly competitive economic environment, opera-

OEM's and suppliers in all industries require CAD interoperability for delivering models to customers using different systems (53) design-to-design collaboration involving disparate CAD systems (43) design-to-manufacturing collaboration (40) communicating with suppliers (38) design-to-analysis collaboration (28) and migrating from one CAD system to a new one (25).

tional efficiency is the key to continuous improvement and the further growth of manufacturing and distribution in North America. A fully integrated ERP System is the cornerstone to success in achieving this objective."

Lean manufacturing continues to grow as North American companies seek methods to remain competitive. From design and engineering, through to the back office operation, to the plant floor there is waste to be eliminated. The continued process of seeking out waste for better processes is critical to create a best-of-practice manufac-

turing organization. Ultimately the claims of ERP vendors are subject to scrutiny. If carefully considered, and integration with the enterprise as a whole, there are some winning technologies that truly deliver. Others do not. Caveat Emptor! Buyer beware! **TCT**

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