

## Material Requirements Planning: How Lean is it?

by Fred Heintz

Many manufacturers are debating whether or not Material Requirements Planning (MRP) is truly useful for those who are trying to utilize a Lean system. Many believe that good Lean practices can eliminate the need for an MRP system completely. The early Lean practitioners at Toyota doubted that MRP enabled process improvements. Based on this, should MRP be scrapped?

A better idea would be to figure out how to take advantage of the

benefits of MRP, which can be exploited to further improve a Lean shop floor. Lean Manufacturing is not a tool set, but a process of continuous improvement. There are many tools used in Lean, including Kanban, just-in-time (JIT), and one piece flow. Implementing a JIT program is not implementing Lean. It is just one tool to help on the Lean journey.

Traditional MRP practices do not help much in achieving

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### Welcome to our first newsletter!

All of us at Sixth Floor Consulting are proud to present the first issue of our newsletter, designed especially for professionals who are interested in creating Lean, efficient business operations. Each month, we are going to present information that we hope you will find useful as you tackle the challenges involved in continuously improving your processes.

In case you are not familiar with our firm, we thought we would tell you a little about who we are and what we do. Sixth Floor Consulting Group was founded by a group of colleagues who worked in a large Hartford-based corporation. Our offices were located on the sixth floor of the facility. Over time, our group developed a reputation for being able to solve problems through process analysis and insightful use of technology. Our co-workers began to comment, "When you need a problem solved, you go to the sixth floor."

With our extensive experience in operations management and information systems, we know what it takes to achieve success in a manufacturing or business environment. Every member of our team is affiliated with APICS (The American Productivity and Industry Control Society), which is one of the world's leading educational and informational organizations in the

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cont. from page 1

true Lean manufacturing. Rigid lead times and reorder rules help create muda, not eliminate it. To use MRP as a Lean tool requires implementing it differently than was originally planned.

As is the case in any Lean journey, the first steps toward effective MRP is simplifying the process. The same policy should be applied to the computer system the company is using. Are all those complex algorithms really necessary? The need for many of these complicated programs goes away as the manufacturing process is simplified and streamlined.

Lean emphasizes simplification, but it also recognizes that there are many complex processes in manufacturing. A computer's strength is being able to run many complex calculations quickly and accurately. This strength needs to be exploited in order to use MRP to best advantage.

Most people know the benefits of a properly run MRP system: improved parts supply, improved vendor notification of short and long term needs, ability to change parts with minimum write-off of obsolete inventory, etc. Are these benefits still valid in a Lean factory? If we are striving to order via Kanban and other visual systems, why should we incur the expense of running an MRP system with all its data maintenance and intensive transaction needs? Unfortunately, not all items can be controlled using visual tools, and even those that can might benefit from MRP under certain circumstances.

An example of using MRP for an item otherwise planned using a Kanban would be an engineering change. It doesn't make sense to plan an item with MRP that is already running smoothly on a visual system; however, using MRP for part *changes* does make sense. On a visual system, someone would need to manually

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track inventory (both on-hand and at the vendor) to run out the old part before ordering and using the new part. This becomes even more complex in situations where multiple parts are changing together. Most good MRP systems have this functionality built into them already. Once the new part is ready to be used full time, the item can be moved off MRP and back onto Kanban cards. While using Lean techniques limits the amount of inventory (therefore the speed of the change is quicker), MRP can help make sure the change is done with the lowest waste and cost.

Another MRP benefit available to a Lean enterprise involves those items that do not readily lend themselves to visual planning. Most shops have some items that are used across the factory floor. Whether these are replenished from a central storeroom or inventoried at multiple locations, a computer system can be the easiest way to track and plan them. Using MRP allows the complete needs to be consolidated quickly, and it notifies

the vendor of replenishment requirements.

When looking at what parts of MRP to utilize in a Lean environment, remember one of the oldest business sayings: "Keep it simple." Apply the Lean techniques used on the production floor to MRP set-up. Remove muda (waste) from the MRP process the same way you would from a manufacturing process.

MRP still has many uses, even for companies well into the Lean Manufacturing change. It is another item in your toolbox, and as long as it is used correctly, it offers options that can benefit your operation. You might not utilize MRP as extensively as before, but its functionality can still be an important part of running your business efficiently. ■





cont. from page 1

field of Operations Management. We pride ourselves in keeping our knowledge up-to-date on the best practices in materials management, information services, purchasing, and quality.

We hope you enjoy our monthly newsletter. Please don't hesitate to contact us with story suggestions, questions, or just about anything else! We want to include all sorts of information to help make your business more efficient and your job easier. ■

## The Power of Teamwork

by Jill Kennedy

It's never too late to make a resolution. Why don't you resolve to try teamwork? It's easier than losing weight or stopping smoking. You can use teamwork in your job, school or even within your family.

One definition of team is a "group of people or animals linked in a common purpose."

Project teams in the workplace can be

formed for a defined period of time to complete a specific project. The best type of team is one that is cross-functional, in which the team members can take advantage of one another's complementary skills.


Teachers in school often have students work together on projects. Students learn that, if each person does his or her part, the project will be a success. If even one person fails to contribute to the project, it will receive a much lower grade.

My son, who is in active duty in the Army, defines teamwork as a metal chain. If one link is out of place, the entire team is out of line.

Informal family meetings can be held to plan chores or weekly meals or to share goals. This creates a closer family bond while teaching the value of teamwork.

I watched a movie recently that portrayed the value of teamwork. The movie "Eight Below," based on a true story, tells of a dog sled team in Antarctica. When the trainer and his group of explorers had to leave the base quickly due to an injury and an impending snowstorm, they were forced to leave the dogs behind. They intended to fly back to retrieve them within a few days. Due to weather conditions and the onset of winter, return was not possible. The dogs were on their own for more than six months without food or shelter. As time went on they started helping each other, finding and sharing food, and comforting each other. After more than six months, the trainer was finally able to return and, to his disbelief, found that six out of the eight dogs had survived. It was a true team effort that helped the dogs to endure.

If your New Year's resolution is still to lose weight or quit smoking, find a buddy who also wants to lose weight or wants to quit smoking, too. You've formed a team! ■

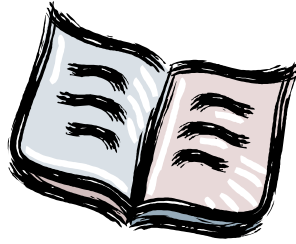


**The goal of Sixth Floor Consulting Group is to create best-in-class processes, allowing each of our clients to take their businesses to a higher level of quality, profitability, and Lean operation.**

**Contact us today to put us to work on your team.**



## glos'-sa-ry



**JIT:** Acronym for "Just In Time"; techniques implemented to reduce inventory by replenishing said inventory only when needed, not early or late.

**Kanban:** Japanese term meaning "billboard"; a system that uses cards to signal the need for an item; a method of JIT production that uses standard containers or lot sizes with a single card attached to each.

**MRP:** Abbreviation for "Materials Requirements Planning"; a production planning and inventory control system used to ensure that materials are available and to maintain low levels of inventory; also used to plan manufacturing activities, delivery schedules, and purchasing.

**Muda:** Japanese term for waste; refers to an activity that is wasteful and does not add value.

**Shingo:** Shigeo Shingo, a pioneer in the Japanese JIT philosophy; he is known as one of the world's leading experts on improving manufacturing practices.

**Shingo Prize:** Named for Shigeo Shingo; a prize created to promote the awareness of Lean manufacturing processes; awarded to companies that attain world-class manufacturing status.

## Upcoming Event

*Tom Dzialo will join Fred Shamburg from Leanovations to present "Lean Leadership Required for the Shingo Prize" in association with the Hartford Apics Professional Society March 3rd, 2008, at the Hartford MDC. For more information go to [www.apics-hartford.com](http://www.apics-hartford.com).*

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