Lean – Magic Bullet

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After sitting through many Lean and Productivity Improvement seminars, I have found many people in the audience are looking for the magic pill or bullet to automatically clear up all their company problems and set them on the road to prosperity. Unfortunately, there is no magic bullet or pill that has been invented yet that will accomplish this. Turning a company around involves some dedicated effort and persistence to accomplish, but it can be done in most companies in a very short period of time and involves very little money.

Transforming a factory into a Lean manufacturing operation is a process that can be described as a journey rather than a destination that involves long-term and short-term goals. The journey to Lean is an ongoing one, it requires a strong commitment, an organizational structure, and just plain dedicated work. The term continuous improvement is linked to Kaizen and means change for the better**.** In Lean manufacturing, this change for the better can result in gradual improvement of products, workplace efficiency, customer service, and reduction of waste. Lean production can help create a continuous learning environment that will keep the gains achieved and encourage new strategies to achieve a company's long-term goals.

The changing technological world makes change unavoidable and we must change the way we think and work or be lost in the fierce competition that is going on throughout the world. Change does not come easily, especially after doing the same thing successfully for many years, it is hard to find that we must change the way we think, work, and interact with fellow employees.

Helping Ourselves

The way we can help ourselves is by applying Lean Management and Lean Manufacturing resources to become more efficient in how we use people, material, and manufacturing processes. The waste in these three areas usually amounts to an average of 35% of a company’s revenue and in many cases may be much higher. If the money saved were reinvested in new technology, it would increase a company’s productivity and make them more competitive globally. The truly Lean companies will survive in the global battle for customers and bottom-line profits. The need for Lean should be obvious since the potential rewards are amazing. Naturally there will be those who will probably resist the changes that are necessary and as some are doing presently, gradually fade away.

Lean principles involve many different ways we can become more efficient by ***working smarter*** **and** ***not harder***.

Waste and its Effects

The main focus of Lean principles is the elimination of waste which is not only costing a tremendous amount of time and money, but is having a serious affect on our ability to produce competitively in the world markets. It is about time that we realize that the quality we build into our product is free; it is the un-quality things (the result of not doing things right the first time) that are costing us in jobs and the erosion of industries.

Seven Typical Wastes in Production Systems

1. **Transportation Wastes** – unnecessary transportation is an added cost that adds no value to the product. Excessive movement and handling cause damage and are an opportunity for product quality to deteriorate.
2. **Over-Production Waste** – overproduction is to manufacture an item before it is actually required. Overproduction is very costly because it prohibits the smooth flow of materials and degrades both quality and productivity.
3. **Excess Motion Waste** - any unnecessary bending, reaching, walking or movement during a manufacturing process is a waste. The characteristics of motion waste are: looking for tools and excess reaching for materials during the building of a product.
4. **Over-Processing Waste – *using a sledgehammer to crack a nut,*** characterized by the use of expensive high-precision equipment where simpler tools would be sufficient.
5. **Corrections / Defects / Rework Waste** - the time it takes to correct, inspect, scrap or rework is a major waste that can be avoided. Waste can be in equipment and manpower, missed/late deliveries, scrap, and the material flow to rework defective products.
6. **Excessive Inventory Waste** – is defined as any inventory that is more than what the customer ordered. Inventory sitting in storage waiting for somebody to buy it.
7. Time **Delays Waste -** machine wait time or personnel wait time contributes to waste within a company.

New Technologies

The new technology produced today, whether it is in machines or software, is more productive and less expensive than it has ever been. Those who continue to use five to ten year old technology and hope to still be competitive are ignoring today's reality. The competitive race will not be won by the companies who have the largest workforce but by the companies who are the most efficient.

Technology of the Future

- **Information technology** is doubling in power and at the present rate of change, we can expect computers 1,000 times as fast as those of today in 10 years. Relating this progress to machine tool controls, they will become faster and more accurate.
- **Multi-Tasking Machine Tools,** available today can perform all the operations of six or more machines in one machine and in one setup at high speeds.
- **Nanotechnolgy** will allow us to produce almost any physical product at the molecular level from inexpensive materials such as atoms and molecules in the next 10 to 15 years.