

How can we **STOP** the **EROSION** of OUR MANUFACTURING BASE

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A recent study stated that manufacturing was the major factor in determining the wealth of a nation and the standard of living its people enjoy. If this plays such an important role, why are we accepting as being normal that so many companies are closing or moving their operations offshore to countries where labor rates are lower. Since studies have shown that labor accounts for only about 10% of the cost of a manufactured product, are these countries using management and manufacturing processes that are superior and more efficient than ours?

Lean Manufacturing

Lean manufacturing represents a journey that should never end because it involves the identification and elimination of waste, and the continuous improvement of all operations involved in any form of work. It seems to imply that there will always be some waste and that better operations or processes will continue to emerge due to better equipment or newer technological developments. It is well-known fact that the implementation of **Lean** production systems has saved some companies millions of dollars over the last 20 years or so. The fact is that not every manufacturer has converted to a **Lean** system years ago remains a mystery to many because the rewards are so amazing. It seems that people are skeptical and not prepared to invest in themselves even though some of the **Lean** principles cost very little money to implement.

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 can amount to as much as 35% of a company's or organization's revenue. If this money were reinvested in new technology and processes, it would increase a company's productivity and make them more competitive globally. Isn't it about time that we started to help ourselves instead of lobbying for taxes about imports or some form of restrictions against foreign goods? The truly **Lean** companies will survive in the global battle for customers and bottom-line profits. Naturally there will be those who will probably resist the changes as some are doing presently, and gradually fade away.

Lean principles involve many different ways we can become more efficient by *working smarter and not harder*. A few of the **Lean** methods that follow will provide a brief explanation of how they can assist us to operate any type of operation leaner and more efficiently.

1. **Cellular Manufacturing** is a system that helps build a variety of products from a part family with as little waste as possible. A number of machines, work-handling equipment, and people are arranged for a smooth flow of materials and parts through the process.
2. **Continuous Improvement (Kaizen)** is a process of on-going improvement that involves everyone – management, supervisors, and workers to improve operations and reduce costs.
4. **Pull/Kanban Systems** - the pull concept in Lean production is to respond to the needs of the customer so they know they can get what they want, when they want it.
5. **Total Productive Maintenance (TPM)** is a program for making the effectiveness of all manufacturing equipment as reliable as possible. The goal of TPM is to prevent breakdowns and defects, but to do it in ways that are efficient and economical.
6. **Value Stream Mapping** is the actions (value added and non-value added) required to bring a product's production path (materials and information) starting from raw materials and into the customer's arms.
7. **Workplace Organization (5S)** - Lean manufacturing cannot succeed in a workplace that is cluttered, disorganized, or dirty. Many companies and organizations, use the 5S system to improve and standardize workplace conditions for safe and effective operation.

Productivity and Performance Improvement

Many people recognize and welcome the need to change as long as they are not expected to change. But the changing technological world makes change unavoidable and we must change the way we think, 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 for many years, and now we must change the way we think, work, and sometimes interact with fellow employees.

During this transition stage, management must take a leadership role by investing in the tools, time, and the training necessary for the employees to be successful in implementing the change required. Management and the workers must become a cohesive team working together to:

- Foresee and prevent problems before they actually become problems and affect our ability to produce in the global economy.
- Focus on updating technology, both from a management and a manufacturing perspective, if we expect to remain competitive with the progressive firms in the world.
- Apply **Lean principles** to all phases of a business or industry ranging from management, the office and sales staff, and the shopfloor.
- Focus on continuous improvement every day to make us and the company more competitive.

- Be an active part of a company team whose responsibility is to improve productivity that provides the opportunity to compete with the world's best.
- Pay particular attention to the basic wants of the customer: quality, cost, and prompt delivery.