

## Lean Six Sigma Works on Everything!

Years ago, a common misconception was that Lean Six Sigma was only for manufacturing companies. Nothing could be further from the truth. In fact, Lean Six Sigma is a methodology that is specifically designed to make processes better, and every organization has processes. Today, we increasingly see all sorts of organizations embracing Lean Six Sigma as a way to improve their processes and improve their organizations.

- Service companies in fields such as health care, finance, logistics and many others
- Charities and other forms of non-profits
- Governmental agencies on a local, state and federal level
- All sizes and types of manufacturing companies

Even better, Lean Six Sigma can work on any process within the organization, as well. We have had the opportunity to see our clients successfully complete thousands of projects over the years in areas such as:

- Human resources
- Finance and accounting
- Sales and marketing
- Logistics and transportation
- Scheduling and planning
- IT
- Quality and continuous improvement
- Customer service
- Technical service
- R&D and product development
- Purchasing

While Lean Six Sigma does work everywhere, what does vary is the specific tools and methods that work best and are most useful in different types of organizations and different types of processes. For example, advanced statistical tools such as design of experiments are most useful in manufacturing and product development efforts are rarely used in a service environment. Likewise, service processes often find tools such as process mapping to be more useful than manufacturing process. It is for this reason that UNF has developed Lean Six Sigma courses specifically for the service and manufacturing sectors. Such customization is not necessary to be successful, but it does make the learning process more value-added and more effective.

Today, Lean Six Sigma is the most commonly used continuous improvement methodology in the world. Furthermore, the number of organizations that embrace it is increasing every year. There is a reason for this; it works on everything!

## Lean Six Sigma: Keeping US Manufacturing Competitive

In the US, manufacturing companies face ever increasing challenges in terms of cost and quality. Every year, it seems, customers expect higher levels of quality, faster delivery and lower prices. And with the globalization of the economy, customers have an ever increasing number of choices. If a company cannot improve quality and productivity and reduce costs faster than the rate of increasing customer expectations, it will not survive long.

In response to this ever more competitive environment, many manufacturing companies have adopted Lean Six Sigma as the primary mechanism to help them drive quality and productivity. In fact, Lean Six Sigma is being used by more manufacturing companies than all other continuous improvement methodologies combined. There is a reason for this; it has been proven to work. With Lean Six Sigma, because it is largely a project-based methodology, the financial benefit to the organization can be computed and reported to the organizational leadership team. In this way, the leadership can evaluate the return it gets on its investment. Needless to say, when done properly, the return on investment is very, very attractive and this is the reason that every year more and more organizations are adopting Lean Six Sigma as the methodology they use to achieve operational excellence and improve their bottom lines.

Fortunately, Lean Six Sigma will work in any type of manufacturing company. At UNF, we have had the privilege of working with manufacturing companies in the areas of:

- Aerospace
- Automotive
- Chemicals
- Computers and electronics
- Food
- Furniture
- Medical Devices
- Metals
- Power Storage/Batteries
- Printing
- Railroad
- Semiconductors

as well as many others.

When implemented properly; that is, when everyone from leaders to the hourly workforce understand their role in continuous improvement and the activities they must undertake to make it successful, Lean Six Sigma can transform an organization. Even better, if leaders and managers fulfill their responsibilities, over time, continuous improvement will be sustained and it will become part of the organizational culture.

To find out how to successfully implement and sustain a Lean Six Sigma initiative in your organization, call DDDD at 123456789 or go online and purchase “Successfully Implementing Lean Six Sigma” by Keith Gardner, UNF’s lead instructor at the Center for Quality and Continuous Improvement.

## Successfully Using Lean Six Sigma in Service Organizations

Fifteen years ago, non-manufacturing organizations almost uniformly declared “Lean Six Sigma won’t work in our organization. We are not a manufacturing company and Lean Six Sigma is for manufacturing.” Today, the world has changed, and service organizations of all sorts are adopting Lean Six Sigma as the way to drive continuous improvement and become more competitive. They have come to recognize that Lean Six Sigma improves processes, and every organization has processes.

It is true that there are differences between manufacturing and non-manufacturing organizations. Manufacturing tends to be “machinery-centric” and service organizations tend to be “people-centric”. This means that the challenges they face are different and the way Lean Six Sigma should be used to drive continuous improvement needs to be different, as well. Among other things, some the individual tools and methods that are in Lean Six Sigma work better in service industries and others work best in manufacturing. Also, the culture of service companies can be quite different from that of typical manufacturing companies and this must also be taken into consideration in terms of implementation and sustainment. For this reason, UNF customizes its training to best meet the needs of the organizations it works with in the implementation and sustainment of Lean Six Sigma.

While far from complete, the list of market sectors shown below is a sub-set of the service sectors UNF has work with over the years. It serves to illustrate how well Lean Six Sigma works across the entire service sector of the economy.

- Education
- Healthcare
- Insurance
- Logistics/Supply Chain Management
- Military
- Realty
- Retail
- Staffing Services
- State government
- Utilities
- Wireless Communications

While service organizations came to continuous improvement a bit later than the manufacturing sector, continuous improvement is no less important. Customers are demanding higher levels of performance, better quality, faster delivery and lower cost. And every year the bar is raised higher. Without a systematic and proven way to drive improvements in all these key areas, it will be impossible to compete moving forward.

## The Need for Lean Six Sigma in Healthcare

In most manufacturing companies, when a defect occurs, the manufacturer has to scrap out or rework the defective part. In most of the service world, when an error or mistake is made, they have to redo the work or, perhaps, placate an upset customer. However, in the health care world, when a mistake or error is made, the results can be much more serious; in fact, frighteningly so.

Because of this, the health care industry (hospitals, medical device manufacturers, large medical practices, etc.) have recognized the need for process improvement to reduce the frequency of adverse patient outcomes resulting from process shortcomings.

Many of these organizations have begun to embrace the use of Lean Six Sigma. Lean Six Sigma allows the service provider to proactively reduce, or in some cases, eliminate, the potential for the mistake or error to occur as opposed to solely relying on multiple layers of redundant checks to try to “inspect in quality”. It also allows organizations to reduce the waste (non-value-added) activity in their processes to not only lower costs, but to allow a greater focus on the value-added steps associated with caring for patients. Thus, Lean Six Sigma enables improvements in quality, productivity and customer satisfaction. It also enables improvements in employee satisfaction by reducing non-value-added activity and time.

The challenge, for most health care organizations, is that Lean Six Sigma is viewed by many as a “manufacturing program” and that it requires standardization of processes that inherently need to be flexible and allow for a “human element”. If implemented properly, this is just not true. The key is to ensure that Lean Six Sigma is employed on the right processes with the desire of reducing non-value-added time and non-value-added work, so that health care professionals can focus on the value added work that they do. For example, how do we reduce the time that needs to be spent on billing? No one in health care would object to that. An actual example of how Lean Six Sigma helps reduce problems and waste comes from a hospital and its operating rooms. Each surgeon has specific needs and preferences in terms of equipment and instruments and how they are located and arranged for surgery. Routinely, the operating room was not set up to the surgeon’s needs. Often this was discovered after surgery had begun, necessitating a rush to remediate in the midst of a (often complex) surgical procedure. Using the tools and methods of Lean Six Sigma, a Green Belt undertook a project to reduce the frequency of this problem from occurring. She was able to reduce the frequency of occurrence by over 80%, improving quality of outcomes and also enhancing customer satisfaction from both the patient’s and surgeon’s perspective.

In today’s rapidly changing health care market, it is imperative that health care organizations become both more cost effective and more quality conscious with the goal of ever increasing patient outcomes. Lean Six Sigma offers a roadmap to enabling improvements in productivity, quality, customer satisfaction, and ultimately profitability.

## **Lean Six Sigma Means Less Work, Not More**

A common concern held by many managers, is that the introduction of a new continuous improvement initiative such as Lean Six Sigma (LSS) means more work for them and their team. Now, not only will they be expected to manage the scores of other responsibilities, they need to find time to drive continuous improvement, further straining their scarcest resource, time and people.

In fact, when implemented correctly, nothing could be further from the truth. Lean Six Sigma is not another thing that has to be squeezed into a day already full of more tasks than can reasonably be accomplished. Lean Six Sigma is just a better way to get many of the things that need to be done already, done more effectively and efficiently. That is, Lean Six Sigma is a methodology that managers and their staffs can utilize to better achieve the goals they already have and complete the tasks that need to be completed, outside the existence of LSS.

All too often, we see managers operating under the misconception that they need to develop lists of LSS projects as a separate activity so that they have something for the Green and Black Belts to work on. This is normally completely unnecessary as managers already have lists of things that need to be done or process outputs that need to be improved; in fact, far more than they have any hope of actually working on. Rather than create the impression that we need to start brainstorming from scratch, just ask the managers where their “pain” is. What can we help with to make tomorrow better than today? With a few moments to separate which opportunities are well suited to LSS, the management team has a list of LSS projects in the queue.

Once priorities of existing issues is established, the LSS DMAIC (define, measure, analyze, improve and control) methodology offers a structured methodology for solving the problems and reducing the “pain”. That is, rather than stumble and fumble through the continuous improvement process, follow a structured methodology that has been proven over 20+ years. The DMAIC methodology provides the organization with a clearly defined set of steps and tools designed specifically to increase not only effectiveness, but also increase efficiency. Effectiveness is not enough. Given that our scarcest resources is people and time, we need to ensure efficiency, as well. The LSS approach offers management teams the opportunity to get better results with less time and effort.

## Improve Profitability by Leaning-Out Your Organization

The “Lean” in Lean Six Sigma has to do with reducing waste in processes. What is waste? Waste can be simply described as activities that the customer is not willing to pay for. In other words, the customer gets to determine what is value-added vs. non-value-added. If the customer is willing to pay for it, it is value-added and it is not waste. If the customer is not willing to pay for it, it is non-value-added and the activity or process step is waste. Lean thinking says that we need to eliminate as much of the waste as possible.

There are many ways that people describe or categorize the different types of waste. One way to do it is to use the word “downtime” as a mnemonic device to remember the different types of waste.

- Defects (also called errors or mistakes)
- Overproduction (producing more than the customer needs)
- Waiting (people, customers, machines, etc.)
- Non-utilized resources (e.g., not using a person’s full skill set or knowledge)
- Transportation (movement between locations)
- Inventory (incoming materials, in the process, finished product)
- Motion (movement within a location)
- Excess processing (activities the customer won’t pay for)

The sobering reality is that when we use the tools of Lean Six Sigma to look at a process for the first time, it is not unusual to find that over 80% of the activities or steps in a process are waste! This is because most of us do not stop to think about what is value-added vs. non-value-added. Examples of non-value-added activities we are surrounded by every day include things like

- Paperwork
- Having to get approvals or permission
- Walking from one location to another
- Having to follow up on things
- Correcting oversights or errors
- Many meetings and emails

Using Lean Six Sigma tools like process mapping, we can learn to see the waste in our processes, so that we can eliminate it or, at the very least, minimize it.

Part of the power of Lean Six Sigma is the ability to minimize waste and transform our processes. Imagine if we could identify the waste in the processes you work with and could eliminate even 25% of the waste. The time, money, aggravation that would be saved would be enormous. Not to mention the positive impact on customer satisfaction if we make fewer errors, have less waiting and shorter cycle times.

Even the application of basic tools such as process mapping enable an organization to begin the process of improvement. All that is needed is a willingness to learn and begin down the road of continuous improvement and improved profitability.

## The Importance of Project Scoping in Continuous Improvement

Pick your cliché

- You can't solve world hunger
- You can't boil the ocean
- You can't eat an elephant

These are not clichés, but rather truisms when it comes to continuous improvement. Unfortunately, not all organizations take this to heart and many struggle to be successful because of this.

If continuous improvement activities are to be successfully undertaken, they need to be properly scoped. All too often management desires to solve all of their problems with one giant project. Unfortunately, this normally leads to disaster. The project timeline is vastly exceeded, the team becomes demoralized and frustrated, and management expresses disappointment and loses confidence in the continuous improvement methodology. This then leads to a downward spiral of the continuous improvement effort and its eventual failure. No one wins when projects are scoped poorly and the project is too large.

How then can the organization better manage continuous improvement project scoping? There are several things that should be done.

1. All continuous improvement projects should have a Champion. The Champions need to be trained in how to correctly select and scope a continuous improvement project. If the Champions are not properly trained, the organization will get what it deserves.
2. The project leaders themselves (e.g., Lean Six Sigma Green or Black Belts) also need to be trained on project selection and scoping. In this way, the Champions and the Belts serve as a cross-check of each other to minimize the potential for scope issues.
3. Creating a project plan such as a Gantt chart so that the project timeline can be visualized and understood. This is often make visible the folly of an overly large project scope.
4. Project scopes should be reviewed by an experienced expert such as a Master Black Belt so that the voice of experience can be brought to bear on scope issues that may not be apparent to others with less experience.

If a scope is determined to be too large, look for ways to right-size it. For, example, can the project be broken into pieces and the gains realized over a series of smaller project. Perhaps the scope can be limited by restricting the project to a single product line, a specific service category, a single manufacturing cell, a single physical location, a specific customer segment, etc.

The project scope is like the foundation on a house. The fate of the project is dependent upon having a sound foundation. If the foundation is flawed, it does not matter how well the rest of the house is constructed; it is at risk of crashing down around you. Make sure the people in your organization are properly trained in how to scope continuous improvement activities and invest the time up front to make sure your activates are scoped correctly.

## Lean Six Sigma Project Prioritization

Most organizations do not struggle with the identification of opportunities for continuous improvement; they are surrounded by them. In fact, many managers are overwhelmed by the number of continuous improvement opportunities. Unfortunately, in most organizations, the scarcest resource is people and time, meaning that we can only work on a handful of the opportunities every year. If we only have the resources to work on a handful of continuous improvement opportunities, how do we ensure we work on the best opportunities? Not just good opportunities, but the best opportunities.

In spite of the need to ensure we work on the most important opportunities, often the prioritization of continuous improvement activities is not given sufficient attention by organization and the managers that oversee specific portion of the organization. This is, to use the cliché, “penny wise and pound foolish”. With a minimum of time and effort most organizations could do a much better job of selecting the right continuous improvement opportunities. The question then is how to best evaluate which of the many opportunities we attempt to go after given we can’t work on everything.

At UNF, we utilize a multi-step (yet not cumbersome) approach to continuous improvement prioritization. This approach applies not only to Lean Six Sigma, but to all continuous improvement efforts.

The first step is to work with leadership (corporate, departmental, site, etc.) to determine the project selection criteria. It is critical that the leadership identify both reward and risk criteria. Establishing both types of criteria is critical. Unfortunately, most organizations ignore the risk side of prioritization and utilize only the concept of reward criteria. This is a serious oversight. Risk criteria are things that make projects less desirable. Examples include resources requirements, project duration, anticipated capital costs, etc. The higher the level or resource requirements, the longer the project duration or the higher the potential capital costs, the less desirable the project is. For example, two projects each have the potential to save \$100,000. The first project takes 6 weeks and the second takes 6 months; which is the more desirable project? The question, of course, is rhetorical. Failure to assess the risk (negative) side of potential opportunities would result in our being indifferent to which project was selected, which is a serious mistake.

Once the criteria are selected, the projects are screened using basic prioritization tools such as multi-voting or pairwise comparison. These quick and easy to use prioritization methods allow the leadership team to quickly “separate the wheat from the chaff”. For example, let’s say the team has 60 potential opportunities for improvement. We would use a simple method to cut it down to the around the top 20. The final prioritization is done using a prioritization matrix that weights the criteria and the projects are scored against the criteria by a team using a scoring system specifically designed to maximize the effectiveness of prioritization. The final result is graphically represented and the projects sorted into the categories of green, yellow and red.

The entire process takes only a couple of hours and can easily be accomplished in two meetings-one to develop the criteria and one to prioritize. Given the amount of effort dedicated to continuous improvement, the expenditure of a few hours to ensure maximum return on the investment, would seem to be a wise investment.