

**An Executive Briefing  
from  
R. Michael Donovan & Co., Inc.**

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# **Lean Manufacturing Certification™ Accelerating the Pace of Business Improvement**

by Jack Rink

Lean Thinking is often described as a “journey, not a destination”. In many regards this is true since the best Lean companies have found that their improvement efforts never end. Each set of improvements result in improved bottom-line results but also exposes more opportunity.

Toyota Motors, the company that launched modern Lean technology 50 years ago, reportedly says they are further behind now than when they started. Yet, during the same time the company has used Lean methods to become the most profitable automobile maker in the world so they certainly have not wasted effort during the last half-century. Rather, the statement is proof that each effort to eliminate waste opens the door to the next increment of improvement.

This journey toward dramatically improved business performance shares three characteristics with more traditional travel. Every journey has a starting point, an objective and a path that connects the two. In order to gain the maximum return on limited resources organizations must understand and optimize these three essential characteristics.

Lean Certification™, a service offered exclusively by R. Michael Donovan & Co. provides a structured way to map a Lean journey to minimize waste, false starts and dead-ends. The end result of the certification process is an organization that has an objective assessment of its opportunities, a firm sense of direction, demonstrated results, and a plan for continued achievement.

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## **The Assessment Process - Knowing the Starting Point**

The journey to Minneapolis is very different depending on whether you start from St. Paul or from Los Angeles. In one case, the most cost effective form of transportation is a car or bus; in the other case, it is probably an airplane. The shorter trip requires very little preparation and can be completed at low cost. The longer journey requires advance planning, considerable investment and quite a bit of time.

The scope of a business journey also depends on the starting point. Without a good initial understanding of the organization poorly conceived improvement efforts can result in projects that fail to address the critical needs of the business. For example, a business that finds its greatest competitive need is to reduce production lead times should organize its Lean efforts in a way to deliver results in that area.

This doesn't mean that other potential Lean benefits are ignored. A typical Lean program will deliver a wide range of improvements in productivity, inventory, quality, fill rates and more. However, a well-designed Lean initiative will focus improvement efforts on deliverables that address the greatest need. Our example of a company that desperately needs reduced lead times would probably not be unhappy with a 15% improvement in direct labor productivity – but it would be overjoyed with a 40% reduction in lead time and a more modest productivity gain.

Not only is it critical to know the initial business opportunities, but it is equally important to understand the types of production and support systems that are in place. Without this information a Lean improvement program can waste precious time with false starts and dead end projects. The assessment process answers questions such as:

- What is the level of understanding of Lean principles and tools? This will determine how much training is necessary to develop internal resources.
- What type of material control systems are in place? This will determine whether we can build on systems that already respond to actual demand or whether improved methods must be introduced.
- How does product currently move through manufacturing steps? This will provide insight into what changes must be made to move toward single piece flow.
- What is the relationship of processes and products? While Lean principles apply universally, the outcome looks much different in a plant that makes commercial airplanes than in a facility that makes semiconductors.

To summarize the need to know the starting point, think of a Lean Assessment as the business equivalent of emergency room triage. An accident victim may arrive with internal bleeding, a broken wrist and a painful abrasion. One of these conditions is life threatening while the others are serious but not urgent. A good doctor will eventually treat these all ailments, but will focus on the most critical needs first.

In the business world some problems threaten the very future of the organization while others offer improved results. A well designed Lean program accomplishes the same result as the emergency room doctor by providing overall improvement but deals with the greatest needs first.

### **Organizing Improvement Efforts – The Path to Achieve Results**

After determining the starting point the step in certification is to understand the how to apply Lean tools to achieve the desired results. Unfocused improvement projects that skip from one Lean technique to another may show lots of activity but may not deliver lasting results. More importantly, they are unlikely to result in bottom-line financial return.

A pleasant way to spend a Saturday afternoon is to take a leisurely drive. Reaching some destination is not as important as having an interesting trip. Taking a detour down a road that turns out to be a dead end is not a problem and may actually turn out to offer an interesting detour. Enjoying a scenic road is more important than choosing the fastest route. In summary, getting to the planned destination is a bonus - but it is no real loss if we never actually arrive.

Although this is a great idea for a relaxing drive it is a horrible way to run a business. A Lean journey needs to follow the most efficient path to the destination while avoiding detours and dead-ends that might make for an interesting Saturday afternoon drive but add expense and delay. The output of a good assessment process will determine how to structure Lean improvement activities into a logical sequence that will deliver bottom line results.

### **Identifying Objectives**

The good news is that Lean Certification™ results in a continuous process of identifying new opportunities. As Lean strips away waste and inefficiency further breakthroughs become apparent. The bad news is that this can lead to the “kid in the candy store” syndrome – there are so many interesting projects to work on that nothing ever is quite completed.

Certainly there is nothing wrong with setting new and improved goals. However, the logical approach is to fully achieve one objective before embarking on the next. To return to our analogy of taking a journey from Los Angeles to Minneapolis, the trip has some clear milestones. First, we need to reach the airport parking lot, then pick up a boarding pass at the ticket counter, next walk to security, then get

to the correct gate and so on. If we try to bypass a critical step we may find that we need to backtrack and perform some rework. For example, if we decide to skip the step of receiving a boarding pass we will be unable to move past security.

The process of implementing Lean has some parallels to this imaginary journey. Establishing and reaching objectives in a step-by-step manner increases the likelihood of staying on track. As each milestone is achieved the organization can pause to consolidate the gain and then set the next logical goal. Objectives that are constantly changing and can never be achieved cause considerable turmoil and frustration in any organization.

A critical role of the assessment process is to identify the expected outcome of the improvement efforts. This creates a sequence of logical steps leading to total business improvement. The arrangement of the steps depends on the business need.

In one company the best approach may be implement Lean technology across all products in a step by step manner. This allows multiple teams to be working in parallel as they learn and apply Lean principles. All products see steady improvement and the organization can take advantage of the results across the board.

However, in another organization the best strategy may be to focus several teams on various parts of a specific product line or product area. This could be the right response if the product line was under particularly severe competitive pressure. In this case, the techniques learned on one line could be applied sequentially to other products.

To complete our Lean journey analogy, this doesn't mean that Lean ends after reaching the first set of objectives. By this time the project teams have probably identified dozens of further improvements – many which were probably hidden by waste and inefficiency at first. These become the destinations of the next legs of the Lean journey.

### **The Assessment Process**

As the result of dozens of Lean Implementations, R. Michael Donovan & Co. has developed an assessment technique that drives business improvement and serves as a key part of the certification process. The assessment begins by meeting with executive management to describe the process and to understand the organization's high level business objectives. At this time, we agree on a timetable, scope of the assessment and set a schedule for a wrap-up presentation.

The actual assessment activities take place through interviews with the people who will be Lean team members and by observing the organization in action. These observations are not just cursory findings taken from quick walk-through.

Instead, our experienced consultants probe extensively to find the hidden opportunities that exist in most all organizations.

The assessment activities are divided into three categories:

1. **Lean Organization** - In this section we assess how well the company is positioned to implement Lean, measure the results and maintain the gains that are achieved. The specific topics in this section include:

- Leadership
- Training and Education
- Measurement Systems
- Customer Focus
- Long Term Strategy
- Setting Lean Standards

2. **Manufacturing Processes** - In this area we examine the use of specific Lean methods including:

- 5S
- Material Pull and Kanban
- Set-up Reduction
- World Class Manufacturing Processes
- Process Mapping
- Line Design
- Visual Control

3. **Support Processes** - In this section we assess the effectiveness of processes that are critical to support the production goals of a Lean organization including:

- Total Productive Maintenance
- Quality Improvement
- Sales and Operations Planning (SOP)
- Enterprise Resource Planning (ERP)
- Lean Software
- Process Mapping
- Supply Chain Management

The results of the assessment are reported in three ways. First, the assessment form provides a numerical score for each item, each category and each section. The scores are weighted by importance so that the resulting number provides an objective measurement of Lean capability. This provides both a snapshot of current state of the organization and also a starting score to track continuous improvement.

Experience has proven the truth in the old saying “What gets measured gets improved”. The numerical score is an objective measurement that can easily be updated to reflect step-by-step improvement.

The second result of the assessment is a summary meeting with executive management to recap the key findings. (The executive management team is welcome to invite as many people from the organization as they see fit.) This

allows the management team to ask for any details needed to fully understand the results of the assessment form.

Third, R. Michael Donovan & Co. will provide a written summary report in order to fully document the results.

### **Optimizing Lean Efforts**

After a detailed assessment identifies the opportunities and maps the improvement path, next phase of Lean Certification™ becomes using Lean technology to achieve measurable results. Lean methods offer a rich variety of tools that lead to business improvement. The optimization phase requires choosing the right tools for the task at hand.

Most executives have heard of at least some of the elements of Lean since the business press contains many stories about Kaizen, Kanban, Single Piece Flow, TQM, Pull Systems, TPM, 5S and so on. However, few companies have mastered the process of applying Lean principles to achieve bottom line results. An Industry Week Consensus of Manufacturers survey of 3000 companies backs up this statement. A full 90% of companies surveyed reported that they had a Lean initiative underway. However, only 10% felt that they were achieving the desired results. Clearly, most organizations need assistance in achieving their Lean objectives.

Optimizing Lean requires more than a “one size fits all” implementation plan. Knowing the strengths and weaknesses that were identified in the assessment phase is critical to picking the right tool for the job. Without this background the organization finds itself performing what Michael Donovan calls “Random Acts of Improvement” – uncoordinated projects that may improve a very small area but have no meaningful impact on the larger organization.

In the Optimization stage of a Lean Certification™ process, R. Michael Donovan & Co. consultants will guide the client’s team in achieving the desired objectives. The tools that are chosen and the order in which they are applied will be structured to provide the desired bottom-line results identified in the assessment stage. As an example, the logical sequence of Lean tools for one company might be:

1. Apply 5S to eliminate the clutter that obscures real problems
2. Value Stream Map the current state to identify non-value added activities and opportunities for improvement
3. Value Stream Map a future state to provide a vision of an improved operation
4. Apply Six Sigma methods to overcome any bottleneck processes

5. Apply Set-up Reduction methods to allow single piece flow
6. Use Lean Line Design tools to redesign the process and match the future state value stream map
7. Determine which of several methods of Kanban will best allow material to be replenished to actual demand
8. Start-up the new line using the principles of one-piece flow and employee flexibility
9. Implement a TPM system to eliminate downtime to critical processes
10. Use continuous process improvement techniques to maintain the gains and generate further savings

While this may be the optimal sequence for one specific company, the unique circumstances in another organization could indicate a completely different plan.

### **Pre-Certification - The First Set of Business Improvements**

Unlike many other business improvement methods, the benefits of Lean technology start to accrue very quickly. While the greatest gains result from a systematic approach that allows the various aspects of Lean to compliment each other, each component delivers its own payback. For example, short set-up times help enable small lot sizes. Small lot sizes support one piece flow. One piece flow allows reduced lead times – and the cycle continues. The power of linking these improvements is obvious, but each one brings some value.

As a result, Lean begins to pay for itself very quickly. As the payback begins to become apparent, some companies are tempted to consider themselves ready for Lean Certification™. This may be possible in a few unusual cases however; it is a very unlikely scenario. Remember the opening example of Toyota which is the world-wide leader in Lean and considers itself further behind than when it started 50 years ago.

A much more likely situation is that a company that has made significant progress is ready for a pre-certification. Pre-certification is an opportunity to review progress and identify strengths and weaknesses. The strengths become company “best practices” and the basis for further improvements. The weaknesses are opportunities where further adherence to Lean principles can result in even more benefits.

In many regards, pre-certification is similar to a mid-course correction on a space flight. Making a small adjustment part of the way through the flight prevents a big miss later on. The same logic applies to a Lean implementation; by assessing progress early on, small mid-course corrections can keep the program on track.

Just as importantly, a periodic review of progress can avoid missing a major Lean opportunity.

### **Certification – Recognizing Organizational Excellence**

Before discussing what Lean Certification™ is, it may be helpful to explain what it is not. Certification does not imply that the Lean journey is over, since Lean is a process of continuous improvement. Applying Lean principles to the same area repeatedly will yield incremental benefits each time. Also, certification does not mean the organization can stop training or learning about Lean methods. Periodic reinforcement of the fundamentals is important to avoid Lean from becoming just one more “program of the day” that made a brief impact but quietly faded away.

What Lean Certification™ does is to recognize an organization that has shown four important accomplishments:

1. Achieved meaningful results as measured by tangible improvement in flow and performance
2. Demonstrated the ability to use a wide variety of Lean technologies to solve problems
3. Created a culture that embraces the concept of continuous improvement and will continue to generate further improvements and savings
4. Established a “Lean Infrastructure” of trained employees that are capable of applying the right Lean tool to the opportunity at hand

Lean Certification™ requires a score of 95% or greater on the Lean Assessment document. Reaching this level reflects a business-wide commitment and demonstration of Lean not just in a few convenient demonstration projects, but as the fundamental business improvement method.

The amount of time required to achieve certification depends on several factors. An organization that has already started Lean and may have some small success stories obviously has a head start. These organizations often fit the profile mentioned earlier of those that have started Lean but are not satisfied with the pace or level of improvement.

Also, a small and/or focused business can expect to move more quickly than a large company with complex processes and a wide variety of products. It is not surprising that a focused business with a small number of products and dedicated processes can generally adopt almost any new technology faster than a manufacturer with multiple locations and very diverse products. Of course, the potential pay-off is greater in the larger organization.

But factor that plays the greatest role in determining the pace of Lean implementation and certification is perhaps the one hardest to measure – the organization’s willingness to change. While “size matters” in this case, it is not a direct relationship. A 200 person organization that is complacent and unwilling to accept new ideas may take longer to transform than a 1000 person facility that openly embraces change.

Unfortunately, experience shows that adversity often serves as the catalyst for an organization to adopt new methods. Too often it takes a competitive crisis to create the realization that old methods are no longer good enough for today’s business needs. The better alternative is to follow the advice of Jack Welch and “Change before you have to.” However, reality is that a Lean initiative is often the response to a competitive crisis.

As a result of these factors, the time required for Lean Certification™ can vary greatly. The absolute best case for a small, focused business that has already started Lean efforts would be about one year. A more typical amount of time would be two to three years. While this may seem like a long time at first, it is a reflection on the fundamental change required in all parts of the organization. Also, it is important to remember that the business will be seeing measurable, bottom line performance improvement during the certification process.

### **Lean Certification™ in Summary**

Lean Technology has made the transition from a grass-roots effort promoted by a small but dedicated following to become a well-respected business improvement methodology. However, most organizations still struggle with how to fully achieve the benefits. Lean Certification™ offers a structured approach to gaining rapid results while simultaneously helping the organization become self-sufficient in its Lean journey. Specifically, the certification process brings together:

- Comprehensive Lean Assessment
- Customized Team Training
- Guided Implementations
- Lean Optimization
- Pre-Certification
- Full Lean Certification™

R. Michael Donovan & Co.’s staff of experienced consultants has helped hundreds of organization meet their business objectives with Lean Technology. Please contact us in order to discuss how the unique Lean Certification™ service can bring the benefits of Lean to your organization in a comprehensive, but low risk, program.

### **About the Author**

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