Projects In Less Time
Taming project complexity

How to Double Your Bottom Line with TLS

TLS - Theory of Constraints Lean Six Sigma

Many organizations struggle with their operational excellence (OE) and continuous improvement (CI) efforts. Achieving real bottom line results, whether in cost savings or increased revenues, has proven to be difficult. Despite the widespread implementation of Lean and Six Sigma principles, poor results persist. The TLS process generates 15-20 times better performance than Lean or Six Sigma. This paper shows the root causes of poor OE/CI program performance and a systematic framework to create ongoing bottom-line results.

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Introduction – Bottom Line Results Are Elusive

Many organizations struggle with their continuous improvement (CI) efforts; actual bottom line results, whether in cost savings or increased revenues, just never materialize for many organizations. Despite the widespread implementation of Lean and Six Sigma methods, poor results persist.

The TLS Theory of Constraints Lean Six Sigma process generates 15-20 times greater returns than Lean or Six Sigma alone. Organizations can generate significant bottom-line results by adopting the TLS framework for continuous improvement, even doubling the bottom line.

Why Do Most CI Programs Produce Such Disappointing Results?

The matter of change is at the heart of continuous improvement and operational excellence. To improve the process, we must change it—however, not every change results in an improvement. We would not bother to make a change if it didn't result in something positive, yet many changes we make result in no improvement to the bottom line. Why is there a mismatch between our expectations for change and the results?

The Improvement Challenge

There are two distinct approaches to improvement. One, the **traditional approach**, can be best summed up in the phrase, "A cent plus a cent plus a cent plus a cent… will accumulate into a fortune." The traditional, additive approach says that improving a little in many different places will improve the entire system, or put another way, "every little bit helps".

In contrast, the **systems approach** to improvement can be summed up with the phrase (paraphrasing Archimedes), "If I can find the leverage point, I can move the earth." This approach says that not every improvement yields an improvement to the system as a whole. Said another way, "not every little bit helps; most changes don't do a thing".

So, which approach makes the most sense? The latter approach certainly reflects everyone's experience. The second approach is what most people would choose. But, few take that focused approach.

Let's look at that in more detail.

Progress Towards "World Class"

Every year, Industry Week Magazine surveys managers about the improvement methods they're using and the results they're achieving. In the 2000s, 70% used Lean, and 29% used Six Sigma (figure 2). The graph shows that managers are trying various tools to improve their competitiveness.

But there is a long way between "trying" and "achieving". When we look at the results, we see that fewer than 25% of the companies report significant progress towards world-class (figure 1). Even though many organizations try to improve their performance, their results usually fall far short of expectations.

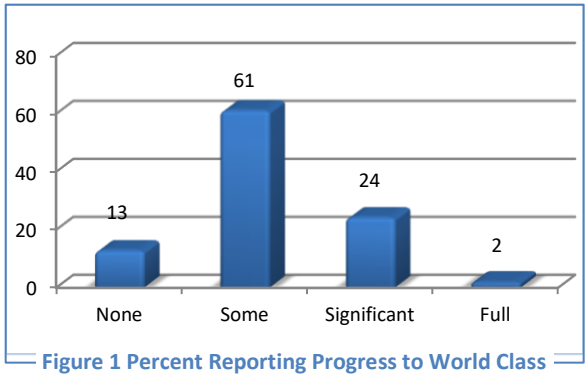

Figure 1 Percent Reporting Progress to World Class

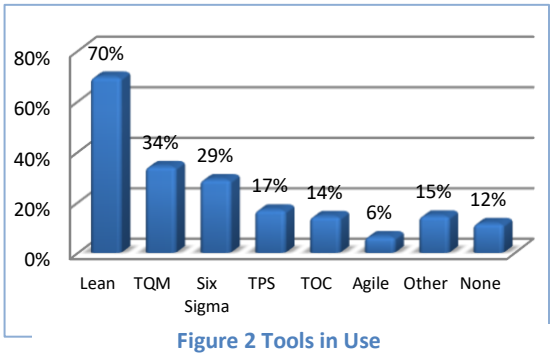

Figure 2 Tools in Use

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The Improvement Conflict

The goal of any continuous improvement program is to create improvements systematically. The teams must get results. They must improve.

The improvement opportunities that seem most available are the most significant time sinks in the process; the steps take the longest or consume the most time. The longest setups, the highest defect rates, and the longest process times are tempting targets for "improvement"; after all, time is money, right?

The teams must not only get results; they must generate meaningful results - the things that are important to the business. The improvement projects should not necessarily focus on the process steps that take the most time. So what are the teams to do? On the one hand, to show results, they should focus on the most significant time sinks, but to create meaningful results, they shouldn't always focus on the most oversized time sinks.

As a result of the conflict, most CI projects are focused on reducing the process time - unless there is a significant business problem (i.e., quality or reliability issue) that threatens the organization. Management will then intervene with a special team to solve *that* problem. Once the danger has passed, the CI teams are left to decide where to work. The focusing methods of Lean and Six Sigma guide the project teams to focus on either the time sinks directly (Lean) or indirectly, targeting the high variation processes (Six Sigma).

Ultimately, the CI teams are not deployed systematically to create meaningful business results; they "improve the process", hoping that an actual return will be generated – the **traditional approach** to improvement.

The goal of any continuous improvement program is to create improvements systematically. But what is an improvement? What is the context for improvement? For most organizations (those that are for-profit entities), an improvement is not truly an improvement unless it improves the bottom line either now or sometime in the future. Just because you're "leaner" doesn't mean you're more profitable. The improvement program must demonstrate measurable, financially justifiable results for its efforts. The traditional approach to continuous improvement is not working.

What's wrong with the traditional approach?

We don't get the desired results because our projects are almost exclusively focused on eliminating or reducing process time. Most improvement teams simply choose the wrong processes to improve. We fool ourselves into believing that saving an hour in the process is going to eliminate an hour's worth of expenses and that it will lead to improvement in the bottom line (the priests of Lean and Six Sigma will say, "Someday it will", but the data shows that "someday" never comes.). Since most organizations do not reduce their workforce due to improvement efforts, time savings rarely appear on the bottom line. Unless the organization produces (sells) more with the same quantity of resources, the return on these "improvements" will be negligible.

At the same time, we intuitively know that only the projects focused on the leverage point have any significant return. We know that the weakest link determines the chain's strength; to improve the chain, we must focus on the weakest link, but CI teams continue to work on projects elsewhere. They "improve" the links that do not affect the chain's strength.

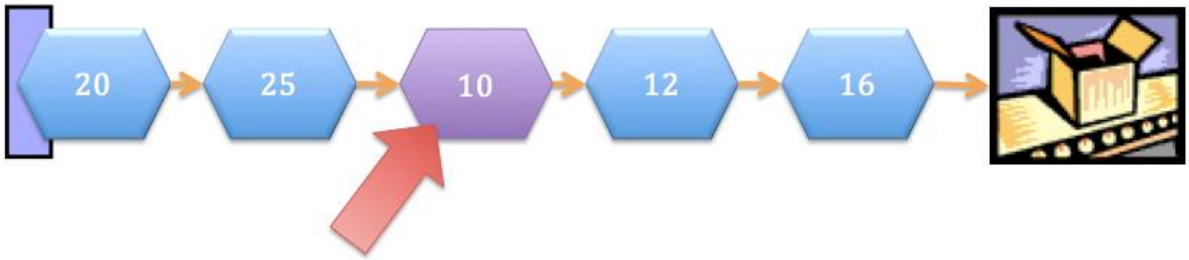


Figure 3 The Constraint Is Where the Leverage Is

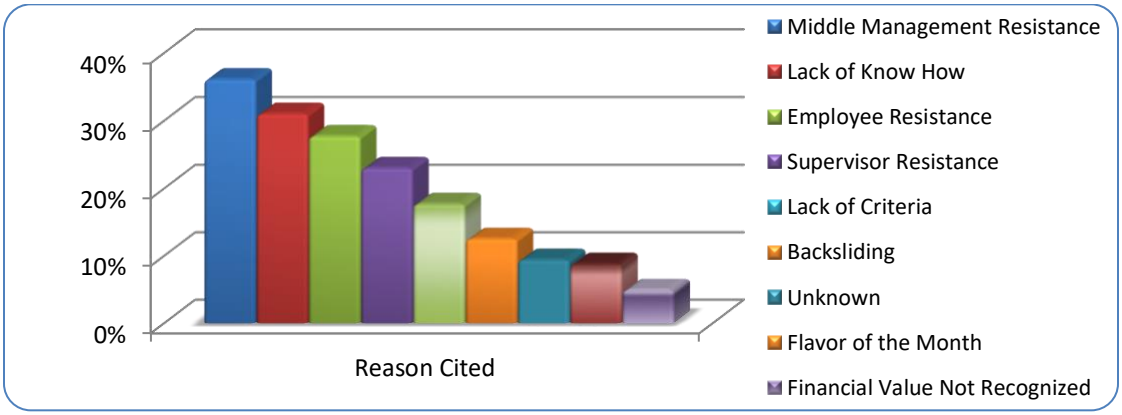
As a result:

- Most projects don't deliver the results they're designed for
- Overall company performance does not improve
- Implementations are difficult
- Managers get frustrated with CI projects
- Most managers stop supporting CI projects and initiatives
- People become cynical about CI initiatives
- Resistance to change is rampant in the organization
- The problems CI programs were created to solve still exist

The lack of measurable results creates problems for the managers who commission such continuous improvement programs. The senior managers wonder why their investment in such programs does not create the promised returns and become skeptical that CI programs of any type will do anything significant. That's when the support for CI initiatives dries up. When senior management loses confidence in CI, it doesn't take long for the rest of the organization to follow.

Resistance to Change

The Lean Enterprise Institute (http://Lean.org) surveyed Lean practitioners about the biggest obstacles to their Lean Implementations. Most practitioners cite "resistance to change" as the biggest obstacle from every management level, the middle, front line, and employees.



Note that unrealized financial value ranks very low in obstacles, indicating the practitioners do not connect the lack of bottom-line results to organizational resistance. Instead, they focus on implementation "maturity", which is another way of saying that the organization is using all the tools. These results indicate a disconnect between the goals of lean practitioners and management, emphasizing tool adoption over results achievement.

Why is everyone resisting the change? Why wouldn't the organization want to use these tools? Indeed, the lack of results is part of the problem, but it doesn't explain the seemingly universal resistance. To find the answer, we looked at a management fad from the past, Total Quality Management (TQM).

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Malcolm Baldrige National Quality Award Research Results

To get insight into the reasons for CI's success or failure, look at the Malcolm Baldrige Award for operational excellence in the United States. The award establishes benchmark practices and processes for business excellence "To enhance the competitiveness, quality, and productivity of U.S. organizations for the benefit of all residents.". It has been criticized as irrelevant to organizational competitiveness because many of the early recipients of the award subsequently failed. In recent years, this issue has been corrected, and the award is focused more on the results the nominees achieve, with the tools' adoption taking a secondary position.

There are quite a few research findings regarding the relevance of the Baldrige Award criteria. In the spring of 2000, a study was commissioned to answer the question, "Is there a causal link between the Baldrige Criteria and actual performance of firms?"[1]

The research had several significant findings related to our discussion.

First, **the most significant driver of system performance is not process but leadership**. Leadership pervades everything the organization does, but those organizations that score well in leadership score well everywhere. This finding doesn't mean that tools are not essential, but they're not as important as the core skill of leadership.

Secondly, process management is twice as important when predicting customer satisfaction as a predictor of financial results. We can conclude that **good processes are important to customers, but there is no straight line from process excellence to financial performance**. So you might have happy customers but unhappy stockholders.

The lesson for management and operations improvement program directors is that the soft skills of leadership are *very* important to delivering results and that the program, to be financially successful, must have strong leadership from the real leaders of the organization. The real leaders must commission, guide, and deliver real accountability to CI teams. CI and business excellence initiatives cannot be delegated to the "business excellence department". Leadership must be fully engaged in continuous improvement. Continuous Improvement and Business Excellence is not something to *add* to the work of managers; it ***is*** the work of managers.

The Reasons for Unsatisfactory Results?

In summary, the reasons continuous improvement programs fall short of expectations are:

- The CI Process is not in alignment with global organizational goals or strategy; we improve the wrong things
  - Projects not geared towards the bottom line (phantom cost savings)
  - Lack of focus on the leverage point of the business
  - CI Teams emphasize tool adoption, not business results
- There is no clear leadership of the CI Process; continuous improvement is not linked to business leaders – it's something additive, not integrated
  - Often, there is no structure to reinforce improvements or manage improvement process
  - Accountability for sustained improvements is not clear
  - Teams are "self-directed", not led

[1] **An Empirical Investigation of the Malcolm Baldrige National Quality Award Causal Model**
Darryl D. Wilson, Sam M. Walton College of Business Administration, University of Arkansas
David A. Collier, The Ohio State University

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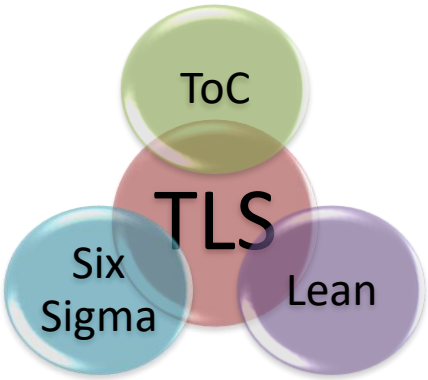
TLS - Theory of Constraints Lean Six Sigma

TLS is an approach to process improvement that blends the **T**heory of Constraints, **L**ean, and **S**ix Sigma[2] improvement methods. The TLS process solves the problems with CI programs and enables the tools to work harmoniously to get the bottom-line results management demands.



It's an integrated approach that emphasizes continuous improvement, where improvement is defined as increasing the bottom line. The TLS ongoing improvement process aims to make the CI organization a source of profit, engaged with the organization's goals and strategies.

TLS is also a system – designed to create improvements that matter to the health and competitiveness of the organization. The system incorporates a project governance structure and a mechanism for deploying CI teams aligned with the goals and strategies of the organization.

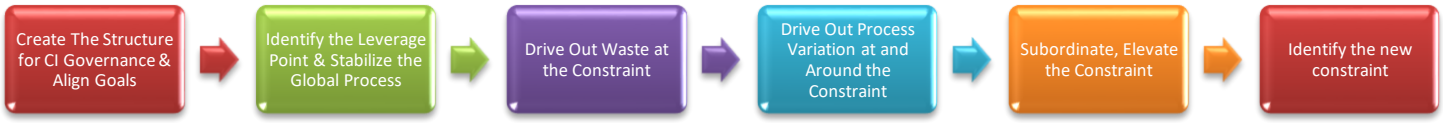
TLS supports different situations with specific tools for that situation. Just as a hammer is for nails and a screwdriver for screws, TLS encourages the use of the CI body of knowledge and process improvement tools to create the results that the organization needs.

TLS is the strategic deployment of the three improvement methods to achieve results that matter to customers and shareholders.

- Theory of Constraints is applied to create systemic alignment and focus on the leverage points to achieve maximum throughput
- Lean techniques are applied to reduce waste at the leverage point to reduce the lost opportunity that waste represents
- Six Sigma tools reduce variation at the leverage point processes and ensure consistent results

The TLS Process

TLS employs a process approach to continuous improvement, a sequence to achieve the best results for the organization. Each step produces outcomes used in the next step.



1. **Create The Structure for CI Governance & Align Goals**

The process begins with creating a structure for ongoing improvement a process to improve. Rather than establish a school to teach tools, create a system to manage the process of improving processes. Establish governance and reporting structures for continuous improvement and align those relationships with the organization's goals and initiatives.

2. **Use ToC to Identify the Leverage Point & Stabilize the Global Process**

The next part is two steps: first, identify the leverage point for improvement, and second, stabilize the fundamental processes of the business using the Theory of Constraints.

3. **Use Lean to Drive Out Waste at the Constraint**

After identifying the leverage point, we get to work applying the Lean tools to drive out waste, thus maximizing the throughput of the entire organization.

4. **Use 6 Sigma - Drive Out Process Variation at and Around the Constraint**

[2] For a summary of the three tools, please refer to the appendix.

After we've done the simple things of Lean, we can focus on reducing variation in the process.

5. Subordinate, Elevate the Constraint

While improving the process, ensure that any synchronization issues are eliminated. If throughput is still insufficient, consider adding additional capacity to the Constraint.

6. Identify the new Constraint

Each time you make an improvement, watch for the movement of the leverage point to a new location and start the TLS process over again.

The Results of TLS

The combined approach of TLS has demonstrated superior results over any other single method, faster and more significant in magnitude.

Sanmina-SCI DOE Results

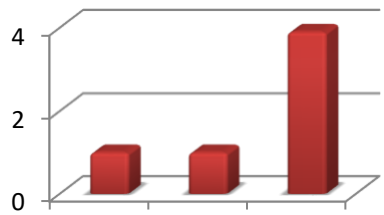


Figure 5 Results by Method

The most publicized implementation of TLS was at Sanmina-SCI, a contract manufacturer. Management there conducted a design of experiment with 21 plants over two and half years. During that time, over 100 separate projects were completed.

The results were nothing short of amazing. The plants that used the TLS method achieved almost four times the return of either Lean or Six Sigma projects.

Contribution to Results

Of the 21 plants in the experiment, 11 used Six Sigma alone, 4 used Lean alone, and 6 used TLS. Those six plants contributed 89% of the results during the two-year experiment. Six Sigma came in at a distant second with a 7% contribution and Lean with 4%. One plant manager commented, "I've been the beneficiary of more than a tenfold return on this investment." The people involved in the TLS implementations report feeling renewed pride for their accomplishments.

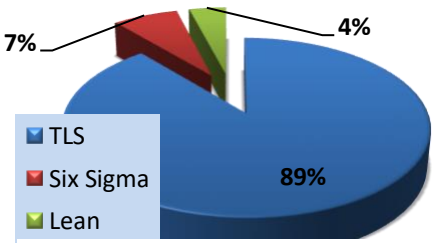
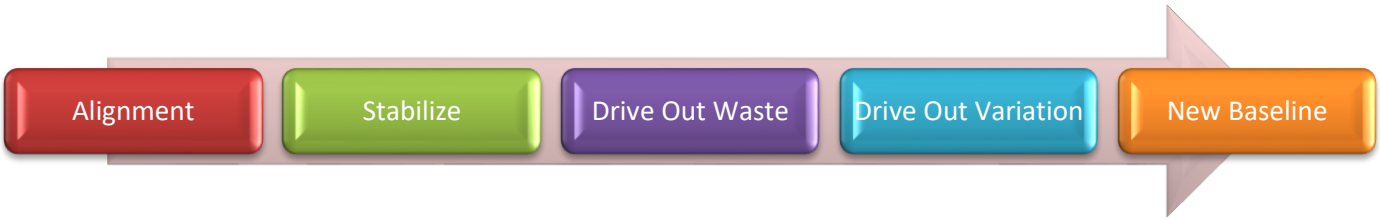


Figure 4 Contribution to Total Cost Savings

The TLS Process

The TLS process emphasizes increasing process stability and learning as the methods are employed and the tools implemented.



Aligning the CI Process with the Organization's Goal & Strategy

A process is what creates continuous improvement. A machine, if you will, to make money. Recall that one of the reasons many CI programs don't deliver results is the focus on acquiring tools rather than producing results. The establishing alignment step creates the process and context in which continuous improvement will take place. Four elements achieve this alignment:

- Commissioning / Governance
- Constraint Analysis
- Measurement Analysis
- Visual Communication

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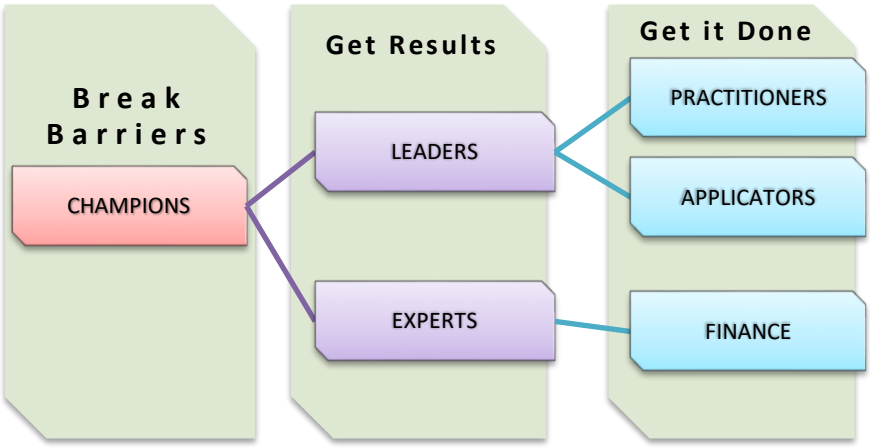
Establish Commissioning & Governance Structure

Establishing the structure to govern improvement projects puts the teams in firm alignment with the organizational and management objectives. The goal is to have projects that achieve the goals of the managers who own the processes. The project teams should be seen as facilitating managers' goals, not as something different or adjacent to the organization's work. There are four key roles in the structure:

- Champions break down barriers to progress
- Leaders & Experts manage the projects, provide local leadership, and are accountable for the results
- Practitioners & applicators do the work of improving the process
- Finance to check to ensure you get results



Champions

The champions are the people who, from a high level, own the project and get it accomplished. Champions are accountable for producing organizational outcomes, so they'll likely be a senior manager. Typically, they have the budget authority for the project and are responsible for achieving the bottom-line results. This role is not the same as an executive sponsor, but they may be the same person. The champion commissions projects, breaks down cross-functional barriers, guides the project, and is ultimately responsible for the project team's results. Experts and Leaders report directly to the Champion.

Leaders

The leaders are the process owners and functional managers. They are likely to have a direct organizational tie to the Champion. They own the project and ensure, using their executive authority and leadership, that process changes are implemented and sustained in their area of responsibility. By having the functional manager leading and facilitating projects, there is virtually no resistance to change from middle and front-line leadership. Practitioners and Applicators report directly to the Leaders.

Experts

The Experts, sometimes called Belts (as in black belts), support the leaders in the implementation, bringing project management, coaching, and process improvement skills to the project. Their job is to help the champions and process owners achieve the project's results.

Practitioners and Applicators

The practitioners and applicators are the people directly involved in the process. They may also be people who are not involved in the process but are being trained to be experts. In any event, these people are taught the process tools, gather data, develop solutions, and implement the changes. By developing and implementing their solutions, there is virtually no resistance to change from the people actively involved in the process.

Finance

The finance people, while part of the project team, are not actively involved in the project. They ensure the organization realizes the results reported by the project team; they are accurate and, most importantly, honest. They ensure the project results are correctly credited to the CI process so the organization can stay engaged. If a team produces no results, management should eliminate its funding.

Constraint Analysis

Before commissioning projects, identify the leverage point – the Constraint of the business, where the improvement efforts will yield the most return on investment. The outcome of this step is a list of projects to move the organization towards its goal.

When projects successfully increase the output of the Constraint, they achieve actual, measurable results. The lack of results no longer blocks management support for future projects. Buy-in is much easier, thus overcoming any resistance to change from senior management.

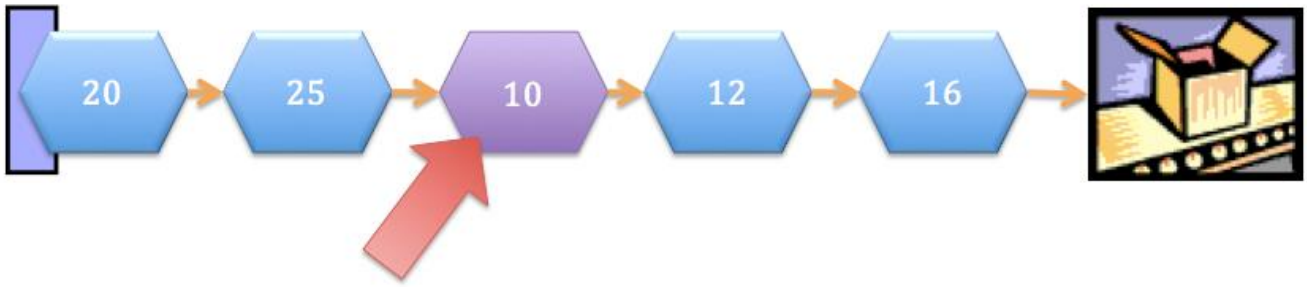


Figure 6 Find the Constraint of Your System

Align Functional Objectives

Evaluate the measurement system to ensure the organization can get an accurate reading of the results of its efforts tied to the financial performance of the organization. This evaluation includes eliminating the labor allocation and variance as part of the project value equation. The result of the measurements analysis is that decision metrics are accurate and believable; future decisions will based on their impact on the bottom line.

Visual Communication

Visual Communication is about producing a scoreboard for your team to deliver important process information that is:

- Easy to understand
- Actionable
- Diagnostic

It has the vital job of reinforcing process behaviors; thus, visual communication concentrates on process behaviors and outcomes. The key measurements are displayed to the team performing the work so they may identify out-of-control conditions and take appropriate actions to correct the process conditions. It also reinforces the concept of process deliverables and promotes a common goal for the team.

A secondary objective of visual display is the communication of process status to managers or anyone else who walks the area. Providing consistent communication promotes teamwork not only among team members but also between levels of management.

Aligning the organization to the CI efforts is critical to establishing the foundation for sustaining results and momentum. Senior leadership establishes the cultural norm of emphasizing bottom-line results, process owners lead the work to improve the organization, and experts support them. Identifying and focusing on the Constraint ensures that the subsequent work at the micro level completely aligns with the macro level. Establishing the visual communication of process results keeps everyone on track, preventing "Organizational ADD". Now, the real work can begin.

Stabilize the Delivery Process

Imagine that you owned a restaurant. You purchased the best equipment, hired the best staff, and opened in a good location. Your food is delicious. Everyone says so. Your prices are not too high, not too low. However, the food never gets to the table while still hot. Long waits are the norm, but you are not worried; there is a long line of customers. Imagine you have just hired a Lean/Six Sigma/TQM consultant to help you improve your business. Where should he start? Of course, he should start on the issue of getting food to the table while it's still hot and reducing wait times. However, that is not where *he* thinks he should start; he says he should start in the kitchen to improve the layout and eliminate waste. Or the variation. Or the scrap rate.

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It's obvious, yet many organizations put their continuous improvement teams to work on projects to improve an unstable process. People are so busy fighting fires and putting product out the door that they have no time to focus on improving how things are done. When the Lean/Six Sigma/TQM guy shows up, he will not get any love from the people doing the work; they have more important things to do!

You can skip this step if the organization's on-time delivery consistently exceeds 95%. If it doesn't, you will get nowhere with your CI efforts until you do.

This step aims to free up time to work on process improvement activities. You find this time by eliminating variation from the order fulfillment process so the team can focus on improving the process itself. The stabilization of the delivery process is accomplished by:

- Level Loading – establishing a consistent flow
- Implementing a pull system that incorporates buffers to aggregate existing process variation (Simplified Drum Buffer Rope)
- Buffer Management – creating the right behaviors to manage potential problems rather than expediting and putting out fires

There are two critical outcomes of this step: one, extra capacity to devote to process improvements, and two, an early warning system for identifying bottlenecks that prevent the process from achieving its purpose, which will provide input into future process improvements.

Drive Waste Out of the Process

Once the macro process is under control, we can begin improving the micro steps within the process. The first step is to drive waste from the process – at least the most obvious of the wastes. There are many tools to employ, but we favor the use of simple tools, at least initially.

Process Mapping

A macro and micro process map reflects the process's most common attributes, identifying the process's leverage points and opportunities to drive out waste.

"Texas Style" QFD

We suggest you employ a "Texas Style" Quality Function Deployment (QFD) process to bring the voice of the customer to the process, a stripped-down, simplified version of the QFD process, where we identify the customers, their requirements and determine how well they're being met. You can do a sophisticated analysis later, but this first cut identifies key process deliverables.

Who are the customers?	What do they want/need?	How are the needs met?
Lovers of ice cream	Taste	Ingredients
	Quantity for price	Provide consistent weight
	Packaging appeal	Shape, size, artwork, color, verbiage
	Texture / visual	Air, fat content, Consistency

Output Process Input

After we have identified the key deliverables of the process, we can then determine the process steps and critical input variables that create the deliverables. These then become the focus of the projects (deliverables) rather than creating additional work inspecting the process.

Cause & Effect Analysis

Not everyone knows how to do root cause analysis, so once you have identified the deliverables, process, and input variables, you can teach the process owners and participants how to influence the process. This training begins with the teaching of the fundamentals of process management and process thinking, which are foundational for the use of more sophisticated tools. It has the added benefit of creating process ownership, eliminating the resistance to change; the process participants develop and implement solutions independently.

Drive Variation Out of the Process

Now that the process is at least mostly waste-free and the critical process components have been defined, the work to reduce variation and stabilize the process can begin. The main goal of this step is not necessarily to achieve six sigma variation but to drive process variation to be less than customer expectations by stabilizing process step outcomes, thus gaining absolute control over the process.

Define Process Variables as Noise or Constant

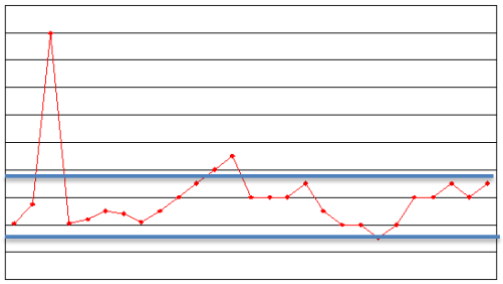
The next step in process excellence is identifying which process variables are controllable and uncontrollable (noise) to provide focus to process improvement and integrity and identify the elements to incorporate into the work instructions.

Visual Work Instructions

Based on the process definition outcomes, write focused visual work instructions to control the variables affecting the process/output with those key variables in mind. Ideally, they are written on two pages using pictures by those who know the process best. One can stabilize the process's input by posting clear instructions on the critical process variables at the workstation. The output can only improve.

Run / SPC Charts

Once we have the basics of the process defined, we can monitor the output of the process using SPC charts. Having the input variables provides diagnostic information; if the process goes out of control, we know which variables to address to regain control.



Variable Characterization

Once the process is under control, you identify which input variables are critical to process outcomes. These variables are then candidates for mistake-proofing applications and further process improvement work.

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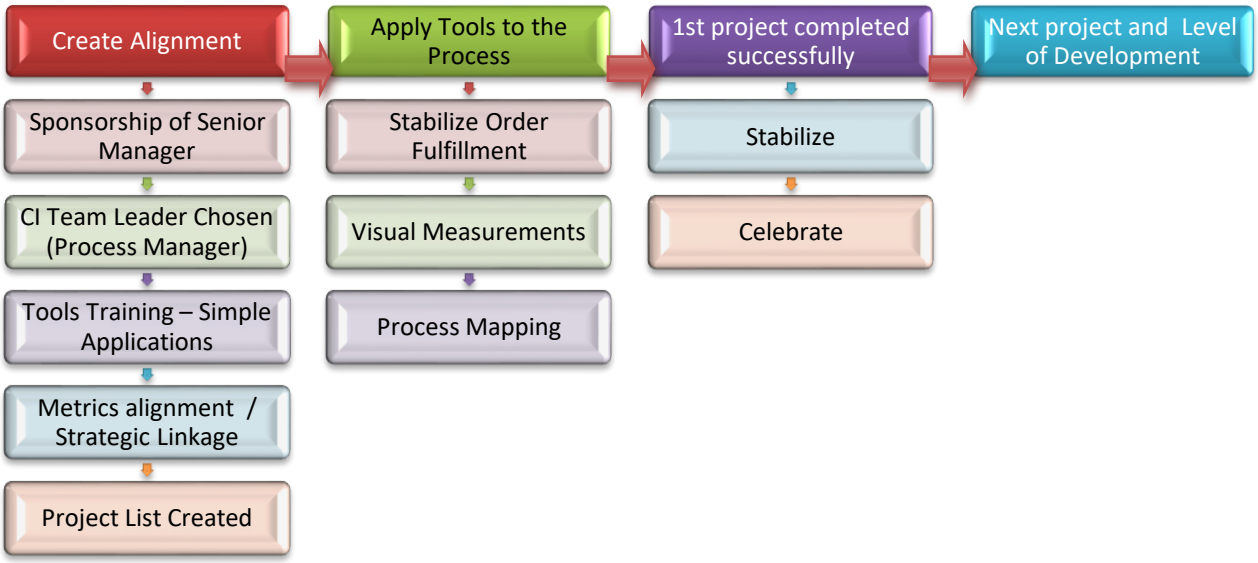
The Path Forward – Implementing TLS

Continuous Improvement (CI) organizations must be profit centers, not cost centers. Too often, these organizations are established with little thought about how they will function with the rest of the organization. As a result, the CI organization goes about aimlessly "improving" with no bottom-line results from its effort. Without any actual results, there can be no buy-in. Without buy-in, the CI teams will continue to experience resistance to change. Resistance to change reinforces the lack of results. Without any actual results for their effort, people become discouraged. If you can't break the cycle, the improvement initiative fails, and management moves on to the next "thing". People become even more cynical because they think it's the next "flavor of the month".

Implementing TLS begins with building the machine for results. The CI process and "department" must be established as a for-profit entity with clear objectives (improve the bottom line!), accountability, and ownership within existing process ownership.

So, the first step is to follow the process and align your CI process with the business and its objectives.

The process is as follows**: Create the alignment**, **apply the tools**, **complete the success**, and then work on **the next project**.



Create Alignment

Sponsorship

The CI process must be sponsored by someone who has a stake in the business outcome, a budget, and objectives to achieve for the business. Ensure that all "improvement" projects are commissioned by a senior manager accountable for the results. Being "commissioned" means being "sent". The senior manager sends a group to get something done, a task managers are accustomed to. The project team is given a budget, specific goals, and a timeline.

Sponsorship ensures that every project is linked to the strategic objectives of at least one senior manager, thus linking it to the global objectives of the organization (presuming the senior manager's goals align with the rest of the organization). It prevents local projects from being done for "progress" or "tool adoption". After all, if the project doesn't move the organization towards its strategic goal, how could it be called "progress" at all?

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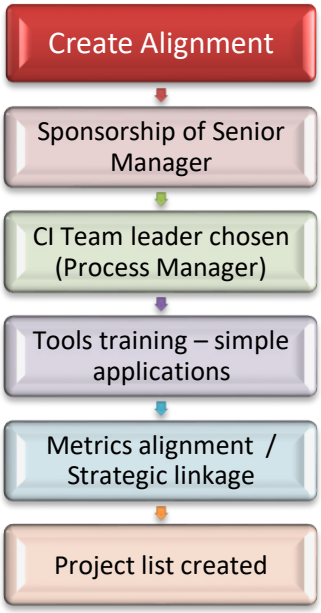
Ownership

CI Process Ownership

Who will be accountable for the results of the CI machine? Who will ensure the parts fit together and function properly? Someone must be responsible for ensuring the process makes money and developing the team to ensure there are process experts to support the process owners in the improvement projects.



Process Ownership

Don't overlook the importance of the process owners and their ownership of the CI efforts. The experts do not own the CI projects and their results; instead, the process owners & functional managers are project owners. They are the people responsible for achieving the organizational outcomes. Unless the functional leaders own the projects (aligned with their area of responsibility), any changes CI project teams make will not last. All the Kaizen events in the world will not sustain a change unless the formal process leadership owns it. Before the first project is undertaken, the process manager for that area must take responsibility for that project.

Tools training – simple applications

The first round of training focuses on basic process improvement tools; even these have value and, if deployed properly, will produce results. Don't try to create experts in process improvement on day one, but provide tools that process users can apply to create a meaningful result. The key here is to give people simple tools to improve their world.

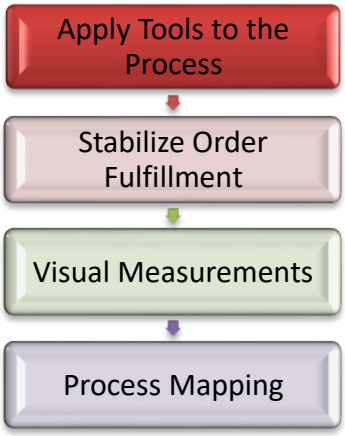
Metrics Alignment / Strategic Linkage

Often, the performance measurements are not understood or in direct conflict with the system. This step involves killing local measures that reward local efficiency and activation and establishing or clarifying process measurements that link local behaviors with system outcomes.

The outcome of these steps is identifying the leverage point and a prioritized list of projects.

Apply Tools to the Process

Once the foundation is in place, the work process improvement work begins. The team follows the TLS process, and training on the process improvement tools is provided as needed (right at the time of application), from simple to sophisticated.



Use Lean to Drive Out Waste at the Constraint

After identifying the leverage point, we get to work applying the Lean tools to eliminate waste to maximize the throughput of the entire process.

Use 6 Sigma - Drive Out Process Variation at and Around the Constraint

After we've done the simple things of Lean, reduce variation in the process.

Subordinate, Elevate the Constraint

While improving the process, ensure any synchronization issues are worked out. If insufficient throughput exists, consider adding additional capacity to the Constraint.

Identify the new Constraint

Each time an improvement is made, watch for the movement of the leverage point to a new location and start the TLS process over again.

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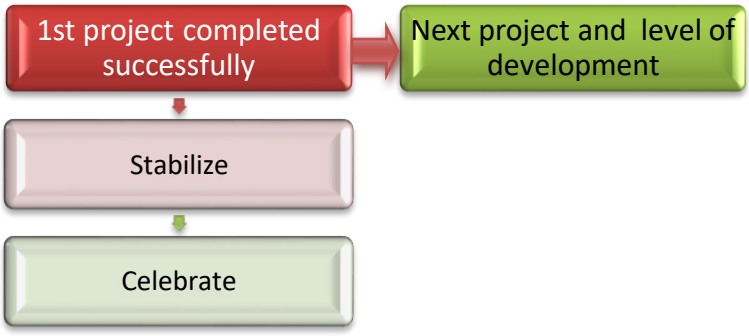
Complete the First Project

Of course, your first project will be successful; to maintain the improvements, you must take action to reinforce the results.



Reinforcement involves establishing the mechanisms to anchor the changes and developing learning processes to ensure that the process improvement "sticks" and the lessons on this project can be applied throughout the organization.

Finally, celebrating the success creates a positive reinforcement for the team that achieved the results. Celebration doesn't mean having a barbeque for the entire organization. Celebration means formal recognition of the team that achieved the results, a ceremony, and a tangible expression of recognition. It is not necessarily a bonus (not that this would be wrong), but it is undoubtedly something the individual team members can point to with pride.

After the celebration, the next project begins, repeating the process.

TLS Summary– A Synergistic Solution

Many organizations struggle with their continuous improvement (CI) efforts. Whether in cost savings or increased revenues, achieving bottom-line results has proven difficult. Despite the widespread implementation of Lean and Six Sigma principles, poor results persist. TLS is a systemic approach to continuous improvement that solves the core problems of the main approaches to ongoing improvement and generates 15-20 times better performance than Lean or Six Sigma alone.

The Causes	The Solutions
Focusing on the wrong things	Leverage by concentrating on the Constraint
No system to produce improvements	Continuous Improvement process with clear purpose and accountability
No linkage to global strategies	Projects deployed to constraint processes
Un-Synchronized improvement teams	Project teams commissioned by senior management
No change in culture	Approach CI as a culture shift

TLS Process

TLS applies the right tools at the right place for the right reasons. Using ToC, find the leverage point and create organizational alignment. Then, implement a pull system to eliminate macro-level process variation. Focus on the leverage point (Constraint) process, driving out waste, then reduce process variation using the Six Sigma tools. During the process, carefully monitor the system for movement of the Constraint.

TLS Benefits

- Fast, significant improvements as measured by the global metrics of Net Profit and ROI
- Overall company performance improves

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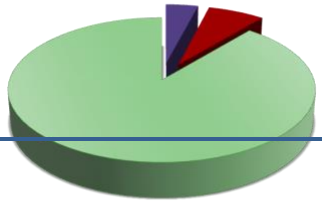
- People have tools to improve their sphere of process influence
- A culture of continuous improvement exists
- Significant progress towards world class with ZERO capital investment



Next Steps

For more information on TLS Theory of Constraints, Lean Six Sigma:

1. Visit http://projectsinlesstime.com/ to browse a variety of articles and videos
2. Contact the author directly at mwoeppel@pinnacle-strategies.com
3. Book an executive briefing

Executive Briefing

Spend 3 ½ intensive hours with Mark Woeppel learning more about TLS and how it can help your business

If you are serious about improving your bottom line, we are happy to offer you a complimentary three-hour Executive Briefing facilitated by Mark Woeppel.

This Executive Briefing will be conducted at a time convenient to you and your management team and won't cost you one cent!

The workshop will begin with a detailed, 90-minute overview of the TLS Theory of Constraints Lean Six Sigma methodology. Following the overview is a fast-paced two-hour workshop — an opportunity for you and your team to explore the application of TLS to your business.

Over three intensive hours, Mark will show you the following:

- How to dramatically improve the results of your Improvement Efforts — without significant capital expenditure or increase in operating expenses.
- How to maximize the results of your continuous improvement team process using TLS
- Your continuous process should be built to maximize throughput, not reduce cost.

This workshop will also allow you to have Mark look at your current continuous improvement process and comment on immediate changes you can make for dramatic and sustained bottom-line improvement!

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Appendix

An Overview of the Methods

Theory of Constraints

The focus of the Theory of Constraints is to increase throughput.

The Theory of Constraints (ToC) starts with the "The Goal" concept. Every process has one. The goal is the reason for the existence of the process. A business has a goal of making more money. A school has the purpose of educating people. The sub-processes also have objectives – reasons for existence. ToC strives to achieve the goal more.

ToC states that the output of any process that depends on synchronizing multiple resources will be limited by very few (one) of those resources. The analogy that best explains ToC as it applies to a process is a chain. The strength of any chain is determined by its weakest link. Our processes are like chains, with dependent events and resources. The strength, or ability to achieve the goal of the process, is dependent not on any combination of resources and activities but only one. This is the Constraint, the leverage point to get results in the process.

To summarize, each process:

- Has a goal to achieve
- Dependent events & resources
- A constraint that limits the process' ability to accomplish that goal

ToC helps you find that leverage point so you can focus on improving process performance relative to the goal.

A second aspect of the Theory of Constraints is the concept of subordination. Once we find the Constraint, we should do everything we can to improve its performance (because we want more of the goal of the process). The other resources should subordinate or synchronize their activity to the Constraint, or a non-constraint resource will become the Constraint. That would be an enormous waste and sacrifice of the goal.

Lean Principles

The focus of lean is to eliminate waste from the process.

Lean is a customer-focused approach that begins with the concept of specifying value. Value is what the customer will pay for. In this aspect, we see an excellent fit with ToC; we cannot achieve the goal without creating value. So first, we must specify what the customer wants.

Once we've identified the value, then we identify the Value Stream. This is the process by which we create value. Typically, "value stream mapping" refers to a specific method of breaking down each activity in the sequence of creating value to identify waste; to strip everything that the customer does not value from the process.

From there, we should endeavor to flow products or services to the customer, one at a time. At this point, the order fulfillment process should be lean and waste-free, where we can work on the next phase.

Create a Customer Pull system whereby nothing is produced unless the customer requests it. It represents the ultimate in demand management, a process where nothing happens unless the customer will pay for that activity.

Finally, one should pursue perfection because the journey to excellence is never over.

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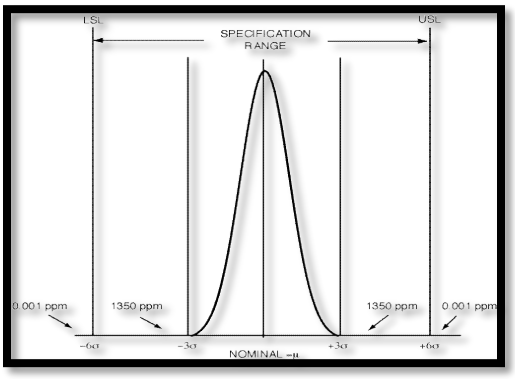
Six Sigma Principles

The focus of Six Sigma is to reduce and ultimately eliminate process variation. Six Sigma is a data-driven approach that emphasizes the ability of a process to produce a consistent outcome.

The first principle of Six Sigma is to stabilize a process before you make changes to it. In other words, before you start improving the process, ensure it produces a consistent result.



Customers feel the variance, not the mean of a process. The impact of a process is perceived not by the process's average output but by the process's variances: the process exceptions. Therefore, to improve the perception of the process, one must reduce the range and frequency of process exceptions.

Six Sigma depends on empirical data for decision-making. It encourages practitioners to measure and gather observations of process behavior before making any process changes.

Six Sigma promotes cause-and-effect thinking about process behavior, referred to as Y=f(x). In other words, the outcomes, "Y", directly relate to the process variables, "x".

The Six Sigma approach uses improvement teams and projects. There is a heavy emphasis on effective project management.

Finally, every project must be financially driven to return a financial gain to the organization.