

Creating Lean Leaders

A Hands-On Approach

A Kaufman Global White Paper

Kaufman Global, LLC
Tele: 1-317-818-2430
www.kaufmanglobal.com

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ACCELERATING PERFORMANCE

Lean Leaders Are Made, Not Born

“Lean” has been the buzzword of the latter half of the nineteen nineties. As world markets continue to heat up and competition among over-capacity industries becomes even more brutal, Lean will remain in the forefront of business strategies for years to come. Yet, interest in Lean will become self-limiting during the next decade. By 2010, organizations will either be embracing Lean in all of its manifestations, or they will have been left to rue in the dust of their competitors who sped by on the highway to profits. While almost all organizations are moving at their own pace towards Lean in some way or another, many are wasting valuable time; time that can never be recovered if the competition is moving even a little faster and smarter towards Lean.

The key element in transforming an organization from traditional to Lean is leadership. Lean organizations are not just traditionally run organizations that operate more effectively than in the past. They are radically different in structure, methods and day-to-day management. The dramatic transformation from traditional to Lean, even if done in a deliberate, planned manner, requires transformational leadership at all levels, from office to shop floor, to executive suite, if the metamorphosis is to be completed in time (to survive in the market).

Many of today's leaders are well versed in the definitions of Lean and its methods and approaches. The difficulty in the minds of most managers lies somewhere in the titanic, chasm between knowing “what” Lean is and understanding “how” to achieve it. Few traditional leaders possess more than a vague idea of the specific day-to-day activities that are required to create and sustain a Lean working environment at any level. Without this knowledge, efforts to establish a Lean organization are always marked with frustration, unfulfilled expectations, and loss of market share and profits. Even if a management team eventually stumbles onto the right answer through a process of elimination, it's often too late.

This white paper briefly reprises the “what” of Lean and outlines the “how” of Lean from the perspective of leadership. In short, this paper argues that Lean leaders are made through focused, rigorous classroom training and the hands-on application of Lean tools and techniques. Specifically, this paper describes Kaufman's **SLIM-IT**[®] Lean Leadership development approach. SLIM-IT is unique because of the emphasis placed not only on Lean but on creating "implementers" of Lean by describing key structural elements for making change happen.

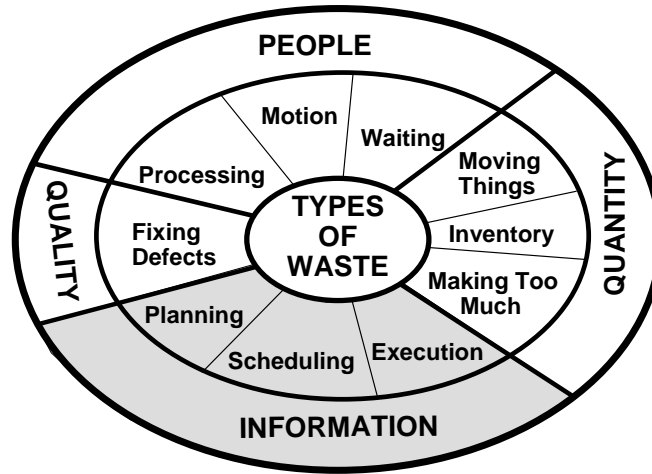
What Is Lean?

Lean is the state achieved by the elimination of specific types of waste. Taiichi Ohno, the primary architect of the Toyota Production System (TPS), first outlined seven types of waste (the non-shaded areas in Figure 1). These days, the TPS is referred to variously as one-by-one, pull, constraint management, just-in-time, flexible / synchronous / flow / demand / cellular / agile manufacturing, kaizen, Ford Production System, Chrysler Operating System, and so on. With minor twists and turns, all of these approaches are either subsets of the TPS or use the TPS as their core. We have found it meaningful to add three types of information waste to Ohno's original concept. The shaded areas of Figure 1 indicate these additional wastes.

In Ohno's time, prior to sophisticated, user-friendly software, kanbans were the most appropriate material movement / control systems. In highly complex environments with many different products (each with a variable process flow) and a great many small and mixed lots, packaged software solutions can be an invaluable adjunct to the TPS. In these very specific environments, an information system can

monitor and signal material movements and therefore can optimize output much more precisely and with far less labor than kanbans.

Figure 1 - Ten Types of Waste



In less complex environments, kanbans are sufficient by themselves and are more cost-effective than software. Figure 2, the “Lean Master Jargon Chart,” displays the tools and methods that are used to attack the ten basic wastes.

Figure 2 - Lean Master Jargon Chart

CATEGORY OF WASTE	TYPE OF WASTE	WASTE REDUCTION APPROACH	METHOD	FOCUS POINTS	PRINCIPLE METHOD/ WORKSHEETS	DESIRED RESULT
PEOPLE	Processing	Workplace Management	Standard Work	Layout Labeling Tools/Parts Arrangement	Standard Work Sheet Time Observation Form	Highly Efficient, Safe Work Areas & Cells that Pump Out the Goods and
	Motion		Workplace Organization	Work Instructions Efficiency Takt Time	Standard Work Combination Sheet	
	Waiting		Kaizen	Skills Training Shift Meetings Cell/Area Teams Visual Displays	Work Load Balancing Sheet Kaizen Action & Target Sheets	
QUANTITY	Inventory	Just-in-time	Leveling	Work Balance WIP Location/ Amount	Above Worksheets & Kanbans	Give You Only What You Need When You Need It With
	Moving Things		Kanban	Kanban Location Kanban Types Lot Sizes	Table of Production Capacity By Process Preventive Maintenance Scheduling Sheet	
	Making Too Much		Quick Setup Preventive Maintenance	Changeover Analysis PM Analysis		
QUALITY	Fixing Defects	Error Proofing Autonomation	Detection Warning Prediction Prevention Jidoka	Appropriate Automated Assistance Fixture Modifications Successive Checks Limit Switches Photocells, Templates Check Sheets	Error Proofing Action Sheet Error Proofing “To Do” List Skill Versatility Visual Display	Good Quality While
INFORMATION	Planning Scheduling Execution	Process-focused Information Technology	Plan Schedule Track Anticipate Optimize	Dynamic Scheduling of Order/job Status by Process Element Timing/completion Queue Analysis	For example, SYNQUEST Manufacturing Manager Software	Maximizing the Powers of a Flexible, Complex System

The benefits of Lean are no longer exclusive to manufacturing environments. During a European engagement, Kaufman identified twenty types of general office waste (Figure 3). Figure 4 presents the

methods and tools used to attack office waste in a functional / data / administrative setting. As an organization progressively employs more of the approaches and tools known to reduce the wastes shown in Figures 1 and 3, it will become increasingly Lean. That is, the desired results identified in Figures 2 and 4 will become increasingly evident.

Figure 3 - Twenty Types of Office Waste

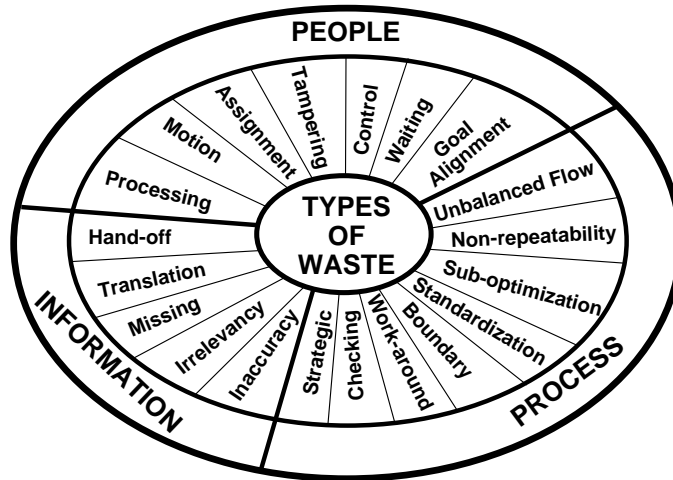


Figure 4 - Methods and Tools Used To Attack Office Wastes

Most Managers Are Not Leaders in the Eyes of Their Organizations

CATEGORY OF WASTE	TYPE OF WASTE	WASTE REDUCTION APPROACH	METHOD	FOCUS POINTS	PRINCIPLE TOOLS AND WORKSHEETS	DESIRED OUTCOME
PEOPLE	Processing Motion Assignment Tampering Control Waiting Goal Alignment	Workplace Daily Leadership System Cross-functional Alignment	Workplace Organization Consensus Management Structured Cell/Area Teams Process Ownership Kaizen 20 Keys	Workgroup Teams Start-up Meetings Visual Displays Layout Work Instructions Rapid Resolutions Skills Training Process Task Teams and Work Stream Teams Process Benchmarking Core Competency Assessment Appropriate Automated Assistance Group Brainstorming Cross Training Error-proofing (Detection, Warning, Prediction, Prevention) Process Structure Analysis Value-added Analysis	Standard Work Sheet DIL0 Analysis RACI Assessment Boundary Analysis Standard Work Combination Sheet Cause/Effects Diagram Work Balancing Sheet Make-Buy Assessment Affinity Diagramming Kaizen and Error Proofing Action Sheet Kaizen Target Sheet "Brown Paper" Analysis ("As Is" And "To Be") Skill Versatility Matrix Work Group Primary Visual Display Flow Charting Waste Checklist Signature/approval Validation Data Flow Assessment Data Integrity Checklist Value/Non-value assessment	A Highly Productive, Informed and Enthusiastic Workforce Focused On Key Processes That Are Fast, Results-Driven, Accurate, Repeatable, Value-added, Aligned with Organization Goals, Scrubbed of Waste, and Supported & Driven By Accurate, Timely Metrics
	Hand-off Translation Missing Irrelevancy Inaccuracy	Process Alignment with Plans Pull Philosophy Process Econometrics Process Reengineering Process Data Requirements Determination	Data Accuracy and Relevancy Determination Data Flow and Availability Studies			

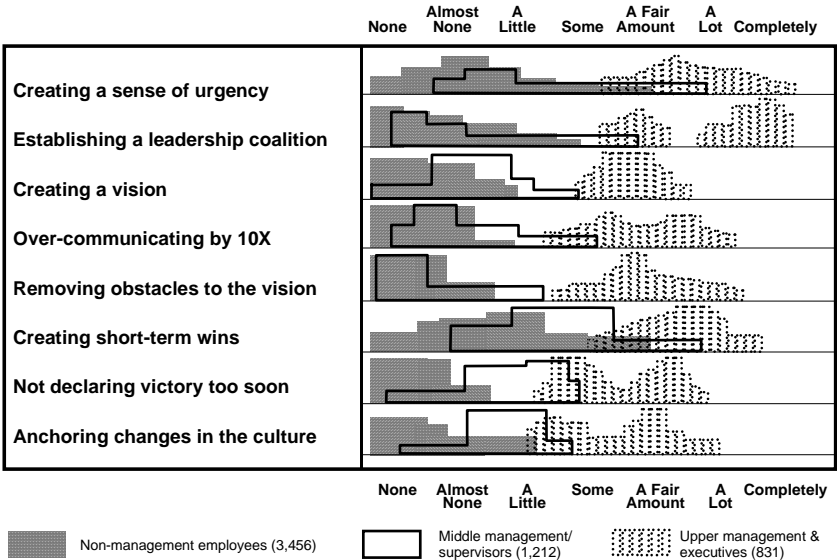
While few managers are experts in all the tools and techniques of Lean, most are familiar with the meaning and mechanics of many of them. Yet, despite this familiarity, comparatively few organizations are implementing Lean successfully. At the same time, many executives in those same organizations believe that their Lean implementations are moving ahead smoothly.

John P. Kotter, a well-known leadership expert, provides some vital insights on this paradox in his Harvard Business Review article, "Why Transformation Efforts Fail." In the article, he reports on research conducted on 100 organizations that failed in their first attempt(s) to conduct a required transformation. The eight common errors that he identified were:

1. Not establishing a sufficient sense of urgency
2. Not creating a powerful enough leadership coalition
3. Not creating a vision
4. Under-communicating by a factor of 10
5. Not removing obstacles to the vision
6. Not systematically planning for and creating short-term wins
7. Declaring victory too soon
8. Not anchoring changes in the culture

Kaufman routinely samples management and employee groups (both client and general audiences) from various industries as to their perceptions about how well their organizations are avoiding these errors in their Lean implementations. The results are shown in Figure 5. The technique used is the "applause-o-meter." Each of the eight common errors is briefly described to the audience. The speaker moves a marker along a line scale, and the audience members are asked to applaud as the marker moves closer to their individual ratings of the organization and to stop applauding as the marker moves away from their ratings of the organization.

Figure 5 - "Applause-o-meter" Results



The "applause-o-meter" is a marvelously quick and accurate way to assess a group's perceptions.

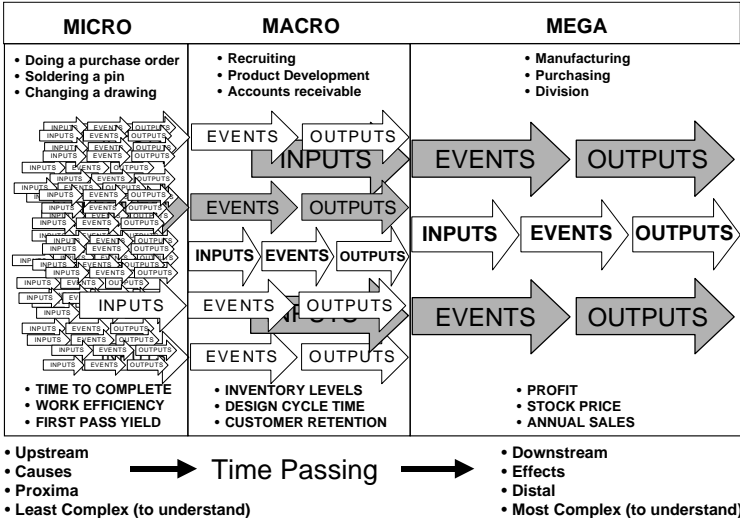
The typical response distribution for each statement is displayed in Figure 5. They are the average, compiled results from many dozens of groups and thousands of people. It is clear from Figure 5 that executives, in general, think they are doing a satisfactory job of leading their organizations toward Lean. In light of subordinates' ratings, executives appear to be wantonly optimistic in their assessments. There is almost no overlap between the ratings of non-management workers and those of executives. The lack of any significant overlap between executives and non-executive middle managers and supervisors is alarming. These results are even more startling when one considers that the surveyed individuals were from organizations that claimed to be implementing Lean aggressively in their factories and / or offices at the time of the assessment.

The most important insight to be gained from Figure 5 is that the typical organization will continue to fail in its pursuit of Lean, primarily because upper management believes that progress is being made. Believing that things are running smoothly, management will be slow to change or modify Lean implementation strategies. In the short-term, this time delay bleeds away profit. Over the long-term, the complacency bred by this perception increases the odds that a competitor will implement Lean more quickly and take away a large portion of the market.

How Does This Happen?

The source of this problem can be found in the ways management typically views processes and attempts to improve them. There are three basic categories in a process hierarchy. Going from least complex to most complex, the processes are described as micro, macro and mega. Figure 6 illustrates the hierarchy. As you can see by the shaded arrows, there is considerable overlap between adjacent levels of processes. Micro-processes are the work done by non-management personnel from hourly factory workers, to secretaries, to technicians. Soldering a joint and completing a purchase order are typical examples. Insofar as they provide the foundation for Lean excellence, the measurement and improvement of micro-processes are fundamental to becoming world-class.

Figure 6 - Micro, Macro and Mega-processes



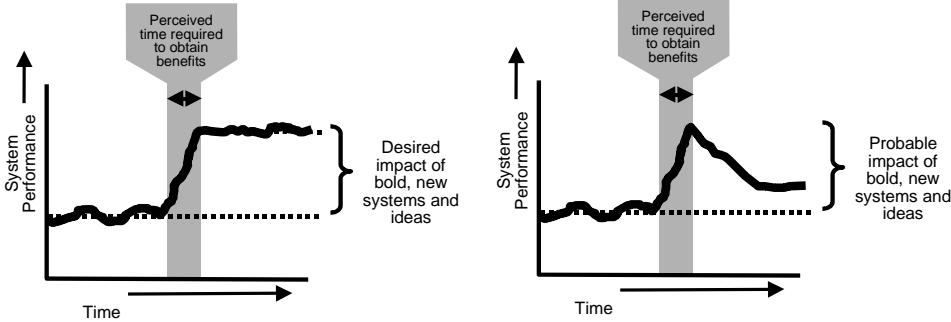
A macro-process is a name for a group of micro-processes. Product development is a macro-process, as are tooling, marketing, recruiting, accounts receivable, and so on. Macro-processes are easy to name and measure, but the measurements don't provide insights about the condition of specific constituent micro-processes. For example, knowing that shipments from a plant were 99.5 percent on-time for one week tells nothing about the health of the plant's micro-processes; (the on-time performance could have been driven with excessive costs).

Mega-processes, such as an entire division, are agglomerations of many micro and macro-processes. Measurements of mega-processes (such as profit, stock price, and so on) are easy to track but provide absolutely no insight into the conditions of the macro and micro-processes that create mega-process results. As investors are all too aware, many organizations run into serious trouble just months after seeing record profits and stock price increases.

Executives and upper-level managers are expected to create favorable mega-process outputs for shareholders and / or owners. One of the difficulties is that all mega-process outputs are time-delayed, averaged, distorted and homogenized results of thousands of micro-processes that occurred days, weeks and months earlier. By the time an executive sees a profit wiggle, the root causes have been operating for a long time. The traditional manager is working far behind the power curve of cause and effect when he or she reacts to quarterly results. The current emphasis on Lean is a consequence of executives and managers realizing that they require additional mechanisms to control mega-process results earlier and more consistently.

A second circumstance further complicates affairs for the traditional manager. Without tools to exert leverage on micro-processes, the traditional manager turns to the only weapon available: technology and "swing-for-the-fence" innovations. The traditional manager is constantly seeking what we call a BNI, or "bold, new idea." Figure 7 displays the effect these managers are seeking. They are trying to hit a homerun with every bold, new idea and scheme, attempting to get a quick, large increase in some aspect of the organization's performance. The hope is that the BNI will be implemented quickly and begin yielding results in the short time period shown by the gray area in Figure 7. The problem is that most BNI are not self-sustaining.

Figure 7 - Desired vs. Probable Impact of BNI



A BNI is an innovative approach, technology or method that attempts to develop revolutionary answers to existing problems and issues. At least 25 percent (and up to as much as 50 percent) of a traditional executive's time is spent on this sort of activity. The amount of time spent on BNIs by middle managers and supervisors, however, is much less than executives, because middle managers have extensive reporting and fire-fighting duties to which they must attend. Also, they are burdened with extensive

planning and organizing assignments to implement the executives' latest BNI. The result is that a traditional organization tries to solve every problem with bold, new schemes. Some work, and some don't; there's no "easy answer" for making the thousands of small, ongoing changes that are key to world-class performance.

Management in this situation must function both as jailer and Dr. Frankenstein. Managers must try to keep employees under control and working hard while they occasionally sneak off to the laboratory to cobble together the next scheme to boost performance. The only difference between Dr. Frankenstein and modern managers is that the famous doctor did it with body parts and traditional managers do it with acquisitions, technology and software. When a BNI doesn't work as planned, stockholders effectively play the part of the enraged villagers who march on the corporate stock price with pitchforks and torches.

Of course, driven by shareholder demands, traditional executives do not see an alternative. Not fully understanding how to implement Lean, executives are driven to BNI that involve technology and large-scale, wide-ranging initiatives (such as EIS, reorganizations, spin-offs, etc). In many cases, these actions are sound business decisions, but many BNI are simply stabs in the dark. (As the old saw goes, "If all you have is a hammer, pretty soon everything starts to look like a nail.")

This isn't even the worst problem with BNI! Even if various BNI are exactly what the industry ordered, they don't provide a significant, long-lasting competitive lead. At best, even if a BNI works as planned, the only gain is a momentary lead that is quickly copied by the industry. At worst, you're playing catch up with outfits that have already started with the same idea. With BNI, if an organization is well run and lucky, it can stay ahead of the power curve for awhile; but the lead always evaporates after a few years, as market dynamics change and different strengths and technologies become important.

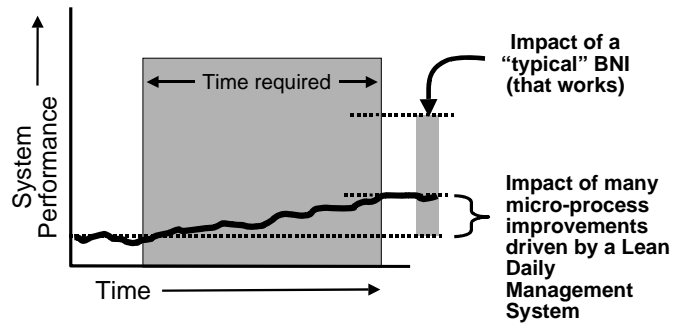
A further complication is that, in any industry, a great many BNI are absolutely critical to survival and success. A management team that lives and dies on BNI cannot afford to pass one up, so it forces many ill-advised BNI on the organization, while bypassing any attempts to fix faulty micro-processes. This is not the road to world-class performance.

What's the Alternative?

The only alternative to the above death spiral is Lean. At the same time that management is pursuing critical and timely BNI, it must also implement the Lean BNI. Yes, the decision to implement Lean is a bold, new approach for most organizations. Not properly handled (that is, committing a number of Kotter's eight errors), Lean BNI implementations almost always fade away as failed "programs of the month."

Figure 8 displays the fundamental objective of Lean: the creation of a system that obtains thousands of small improvements in countless micro-processes without management's direct intervention (once it gets going). Lean is every worker's pursuit of small improvements in his / her specific tasks while management attends to the bigger picture. This is often called kaizen.

Figure 8 - Impact of BNI vs. Impact of Many Micro-process Improvements



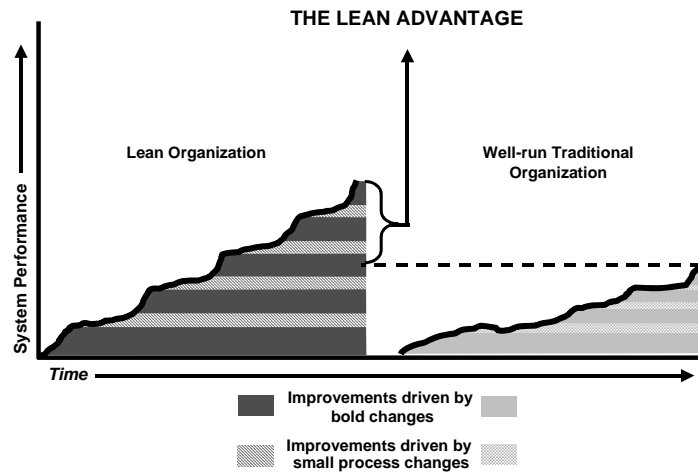
Any individual micro-process improvement in a Lean system is like a snowflake. Taken one at a time, each is almost nothing. But, when enough of them are piled together, continuously, irrevocably, without pause, they create a massive glacier that cannot be stopped. That is what Lean is—a competitive behemoth built upon thousands of small improvements that cannot be dismissed. These micro-process improvements (and the Lean BNI that spawns them) amount to the primary difference between world-class and traditional organizations.

Anyone can buy a technological BNI, but it is impossible to buy a Lean system. Each Lean implementation must be developed on-site, adapted by the people to mesh with all the “nooks and crannies” of the organization. While the basic principles of Lean are the same in any organization, each implementation is unique. It’s much like building a sidewalk. All sidewalks are flat on top, but each is infinitely different on the bottom, as it is formed by the landscape of the ground beneath. It might be possible to install pre-cast, flat sidewalk sections, but the labor required first to level and compact the ground would be prohibitively expensive. To avoid this cost, concrete sidewalks are poured in place and, conforming to the exact topology of the ground, create a solid, perfectly fitting, stable surface. Lean implementations are analogous in concept: much the same in outward appearance across organizations but form-fitting to each organization's unique profile and nuance.

This is why successful Lean organizations are always very open about hosting tours and telling everyone (including competitors) how they did it. They know that the “Lean tourists” are looking for a technological BNI—a quick and easy way to transform their organization. There isn't one.

Figure 9 displays the vital synergy between management driven BNI and employee sustained Lean activities. A Lean organization gets more and more from each BNI. Management teams in Lean organizations can attend to the “big picture” and generate more appropriate and higher quality BNI, while Lean activities focus on running and improving day-to-day micro-processes. These extra BNI gains are significantly augmented by the thousands of small micro-process improvements that traditional organizations cannot match.

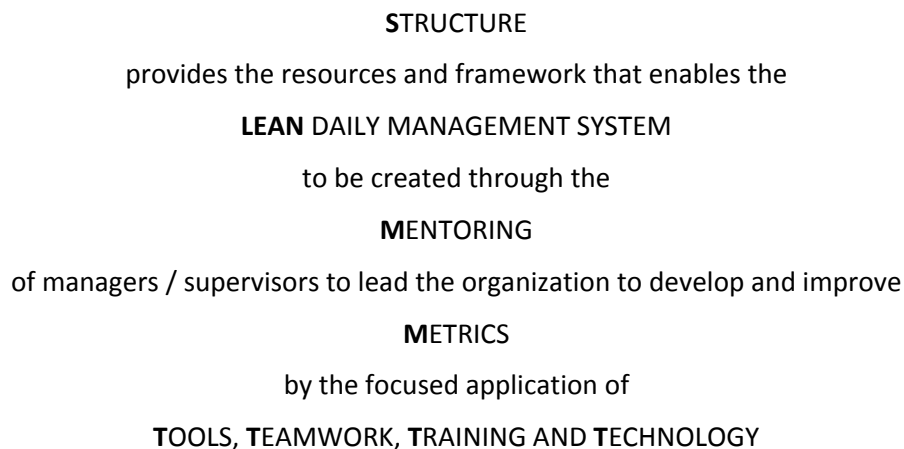
Figure 9 - The Lean Advantage



How to Build a Lean Management Team

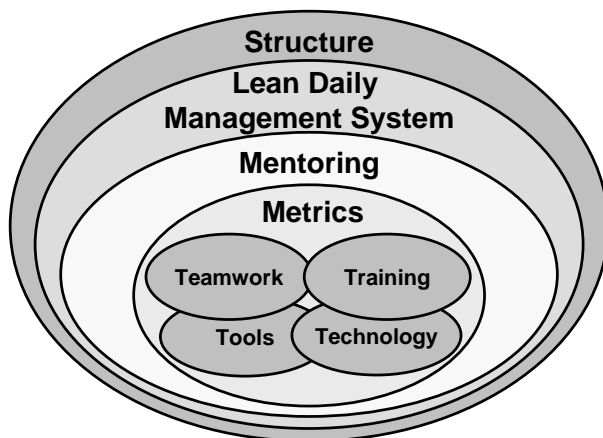
Successful Lean implementations require Lean leaders; and Lean leaders aren't born—they are made. Kaufman has developed an approach that creates Lean leaders and installs a total Lean system in three to 12 months (depending upon the size of the organization or unit). This approach, called **SLIM-IT**[®], (or SLMMTTTT), has evolved through years of experience implementing Lean in many industries. It was designed to incorporate automatic, failsafe measures to prevent Kotter's eight errors and a number of other Lean implementation shortcomings.

Figure 10 presents the SLIM-IT Lean leader conceptual model. The various components are Structure, Lean Daily Management System, Mentoring, Metrics, Tools, Teamwork Training and Technology. It may help to think of the SLIM-IT model this way:



The most critical elements of SLIM-IT are the outer, shaded areas of Figure 10. These are the elements whose absence in traditional organizations leads to Kotter's eight errors.

Figure 10 - The SLIM-IT Model



Structure

Structure consists of several components:

1. The executive BNI that mandates Lean practices as the new norm
2. The executive decision to create Lean leaders
3. The project management framework and resources to drive the SLIM-IT initiative

Lean Daily Management System

A successful Lean implementation is built upon the Lean Daily Management System, or LDMS[®]. It is vitally important to understand the central position that the LDMS holds in making Lean work. It is a system that implements and sustains structured, mandated, planned, focused and coached efforts to improve the performance of day-to-day micro-process activities.

The LDMS consists of five mutually supportive components. They are:

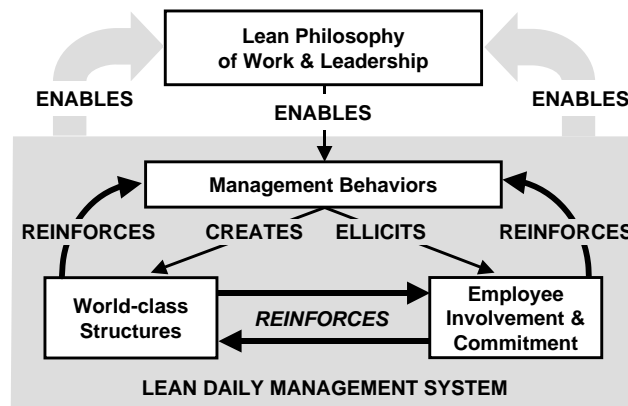
1. A daily, five to ten-minute, stand up, **shift start-up (SSU) meeting** held in the work area of each intact workgroup of up to nine people.
2. A **primary visual display (PVD)** board for each intact workgroup of up to nine people. (The SSU meeting is held in front of the PVD).
3. A **20 Keys[®]** self-assessment and improvement plan for each workgroup.
4. A **Kaizen Action Sheet (KAS)** process improvement methodology in each workgroup.
5. **Plan-Do-Review** continuously at the micro-process metrics level for each workgroup and / or cell.

These five elements, if implemented and maintained, provide a rock-solid foundation for any world-class Lean program. They provide the mechanism for each workgroup to take ownership of its work processes. The LDMS establishes the involvement and commitment that are the soul of world-class achievement in every human group endeavor. All other Lean tools and techniques will realize only a fraction of their potential if any of these five elements are not implemented and rigorously practiced. In fact, these five elements constitute a strategy to avoid every one of Kotter's eight errors. So why isn't

every organization urgently implementing the LDMS? Although many leadership teams know what Lean is, most do not know how to coach, guide, and sustain it.

Figure 11 demonstrates a model of why the LDMS works so well. It would be ideal if every leadership team was suffused with a Lean philosophy of work and leadership and simply began to *do* Lean. The LDMS provides a framework that compels the organization’s leaders and workers to behave as if they were internally motivated to practice Lean. All that’s required is a sufficiently enlightened and determined leader of the Lean BNI.

Figure 11 - Lean Daily Management System



Specific management behaviors create the structure for Lean. For example, within the LDMS, management must facilitate SSU meetings within every workgroup, every day. These meetings, held in front of the PVD, create the conditions (structure) that permit employees to take ownership of their processes and improve them. This elicits employee involvement and commitment. Both the employees’ commitment and bottom-line process results will convince even the most traditional manager that the LDMS works. This reinforces management’s Lean behavior and begins to plant the seeds of a Lean philosophy in all areas of management thinking.

Mentoring

The directional guidance of SLIM-IT comes from the next element: mentoring. This is the day-to-day coaching of managers and supervisors in real-time, on-the-job, as the PVDs, KAS, SSU meetings and 20 Keys plans are designed, implemented and refined. The coaching must be done by highly experienced Lean experts who understand the why, what and how of applied Lean. Mentoring is the mechanism that assures that management behavior at all levels will be changed sufficiently and over a long enough period of time to infuse them into the organization's culture. Without the mentoring element of SLIM-IT, everything else simply distills down to another tired, old, traditional improvement plan—a.k.a., a lot of smoke, mirrors and glowing progress reports but few, if any, sustainable behavior changes on anyone’s part.

Metrics

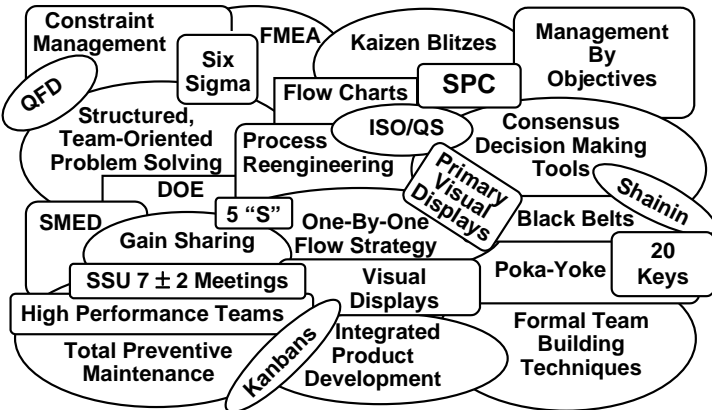
Metrics get a lot of attention in traditional organizations, but often they are too little, too late; they are done at the macro and mega-process levels. A key element of the SLIM-IT model is to pull the entire

organization together around a central core of universal metrics and to focus on the appropriate micro-process metrics within each workgroup. This is where the 20 Keys methodology becomes critical. Building upon the foundation of Kobayashi's *20 Keys of Workplace Improvement* (an entire factory), Kaufman Global has developed specific sets of workgroup level 20 Keys® for numerous other environments.

Tools, Teamwork, Training and Technology

Every organization implements various tools, teamwork, training and technology approaches in an attempt to improve. Figure 12 displays several of the popular approaches. Many of these methods are part of any Lean system. All of these approaches / methods have merit if properly implemented. Improper implementation is the reason why most organizations fail to obtain expected sustainable results. That is, there were no Lean leaders to model and coach the use of the new Lean method and demand that it be practiced at the micro-process level, every day, in every workgroup. Further, there was no LDMS foundation to focus the appropriate use of the approach within workgroups.

Figure 12 - Tools, Training, Teamwork and Technology Approaches



As a result, most initiative implementations in traditionally managed organizations fail to deliver what they promise, despite the fanfare with which they are launched.

Final Words

Lean is a journey and not an event. It is imperative that organizations embarking on the Lean journey develop leaders who are well equipped to handle the ambiguities of implementation in a changing environment. SLIM-IT provides structure and uses hands-on experience to drive learning, leadership and results. The elements employed by SLIM-IT are fundamental to any leadership development or enterprise-wide Lean implementation you endeavor.

Creating Lean Leaders: Addendum

SLIM-IT® Principles

The SLIM-IT methodology was created based upon several key concepts:

1. People Learn by Doing – As trainees learn a concept or approach in the classroom, they are required to apply and / or install it immediately in workgroups or areas selected by management. This "hands-on" approach bridges the gap between training and learning. Further, trainees are held accountable for implementing Lean, which bridges the gap between learning and results.
2. Organizational Training or "Learning" Can Be Self-funding – Each program should include Rapid Improvement Events (RIEs) / Kaizen events as part of the training regimen. A RIE is an accelerated way to eliminate waste and get fast results while demonstrating Lean tools and techniques real-time.
3. Improvements Must Be Sustainable – Each program involves the Lean trainees in the design and implementation of the LDMS® into specific workgroups selected by management. This includes 20 Keys® plans, PVDs, SSU meetings and the KAS methodology. Each of these workgroups will begin to improve its performance immediately, and the LDMS's plan-do-review micro-process approach will ensure that the improvement is sustainable.
4. It Creates Lean Leaders – The comprehensive and intensive "learn-by-doing" nature of the SLIM-IT program, along with continuous coaching in real-time, creates unparalleled Lean experts. Lean Leaders possess applied skills in traditional Lean tools and techniques, and modified Lean techniques for the office or business process environment, and a strong focus on getting bottom-line results by leveraging an organization's most vital element—its people.

Making Lean Happen

Lean doesn't happen by itself. A Lean organization must have Lean leaders. If you already have a Lean manufacturing initiative underway, SLIM-IT can assist your Lean leaders in applying Lean concepts and principles in support and administrative areas (i.e., "office" environments). Regardless of your Lean focus, successful Lean implementations depend on the "grass roots" level people in every organization. For this reason, Lean leaders must learn and practice the power of understanding the human aspect of Lean. Simply put, SLIM-IT creates Lean leaders in a hands-on, learning environment in a way that generates immediate operational improvements and bottom-line financial results.

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