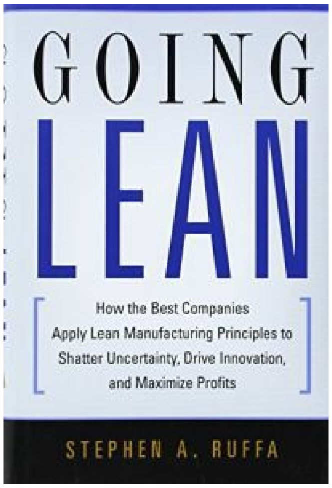

Book Going Lean

How the Best Companies Apply Lean Manufacturing Principles to Shatter Uncertainty, Drive Innovation, and Maximize Profits

Stephen A. Ruffa
AMACOM, 2008
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Recommendation

People and organizations too often find that the very things they did to prepare for emergencies end up making their problems worse. Stephen A. Ruffa shows you how to use the "lean dynamics" approach to track "lag" within your operations and eliminate it before it harms your competitiveness and makes you less adaptable in a crisis. He explains how to determine where lag is hiding and how to root it out. He offers a solid plan for launching lean dynamics and getting everyone on board. Ruffa also explains how to measure and maximize value within the lean dynamics system, and tells you how to stay ahead of the "value curve." Ruffa writes clearly and illustrates his principles by comparing Toyota and the Detroit automakers, Wal-Mart and Kmart, and Southwest and other major airlines. *BooksInShort* recommends his book to anyone interested in learning about a new approach to business operations.

Take-Aways

- The lean dynamics management system helps companies maintain value and stability even amid change and difficult conditions.
- Use lean dynamics to slash "lag" and variations from your system and to create sustained worth as measured by the "value curve."
- Measure the right things. Avoid variances because they undercut quality, stability and customer expectations.
- Focusing on value instead of on optimization will make your operations more stable.
- Establish a "value margin" in case you need a surge of competitive energy.
- Your lean action plan must engage your executives, stakeholders and workforce.
- The lean dynamics approach operates on proven principles, including grouping products by families or clusters for increased efficiency.
- Look for and eliminate supply chain disconnects that create waste and loss.
- Be willing to change your operations to use lean dynamics. Workarounds and tweaks just create more problems in the future.
- Great opportunities can include risk you should exploit.

Summary

Why You Need Lean Dynamics

Successful organizations are finely tuned to thrive under their ongoing economic and competitive conditions. But when those conditions radically and abruptly change, the organizations must adapt quickly or die. Can you prepare your company for sudden, extreme change? Yes, you can, by building in flexibility that actually creates value. However, leaders always have to balance the cost of preparing for emergencies against the weighted cost of a possible crisis. Inflexible operations, blocked processes or out-of-date measurements can make it hard to weather a storm.

> "Lean dynamics...is a system of management that creates and sustains strong, steady bottom-line value for corporations and their customers even as they encounter severe, dynamic conditions."

Lean dynamics tackles these issues precisely. It does more than just make small adjustments in processes and organizational setups. Instead, it sets out to create "transformational" changes and to bring in a "new way of managing." Lean dynamics calls for clustering operations according to product families. It uses a measurement called "the value curve" to evaluate a company's progress, as it unfolds, and to compare it to its competition, particularly to other lean companies. As a company makes more of its products, the value it creates follows a trajectory. It may or may not increase. For instance, inefficiencies in its processes could cause the firm to create less value.

> "To make lean dynamics work, unforeseen disruption must be prevented; firms must become persistent in uncovering potential hot spots that leave them vulnerable when conditions shift."

Lean dynamic processes work within efficient product groups to find and fix such inefficiencies or "lags" in your system, and to avoid waste, ineffective "workarounds" and crisis-driven interruptions. The problem is that most organizations live with a flurry of *ad hoc* preparations for various contingencies, without any overall scheme. And while departments stockpile inventory as buffers, and managers jockey their manufacturing schedules, everyone learns to disregard the operating plan and to institute workarounds that will create future systemic blockages. Such variations create waste, build lag into your processes, slow production and actually leave your company less prepared for a crisis. Because no one has an overall view of what is really being built or stockpiled, managers can't respond quickly and accurately when the storms do come.

You Only Think Things Are Stable

Henry Ford worked on perfecting his Model T car for many years. He made his manufacturing processes more efficient and lowered costs to provide consumers with more value. Ford provided standardized and inspected parts to his assembly lines. After making millions, Ford ended up near bankruptcy because General Motors started doing a better job of meeting public expectations. GM only recently surrendered its industry lead to Toyota, which followed the post-World War II teachings of W. Edwards Deming about building quality into every part's intrinsic design. Like other Japanese carmakers, Toyota became a Deming disciple. Then, the company added its own doctrine of eliminating everything that did not add customer value. Detroit was not prepared for Toyota's slow, steady and disruptive climb.

> "What marks excellent companies is not how efficiently they operate when demand is stable and conditions are optimal. Rather, those who apply lean dynamics continue to thrive...even when unpredictability is constant and change is normal."

Using lean dynamics' management ideas and practices can prevent such "unforeseen disruption" from derailing your company. "Going lean" can help you detect internal weaknesses, strengthen your processes to be less wasteful, create fewer product variations, be more flexible in adversity and address problems more innovatively.

Know How Your Firm Creates Value

Since jet airplane engines cannot produce immediate power shifts and surges, pilots must anticipate their power needs and always judge their "power margin" – the gap between the power they have and the power they are about to need. Manage your business to have that "value margin" in case you need it. A fighter pilot without the power to execute dogfight maneuvers is fatally "behind the power curve." Similarly, if you let your business fall behind the value curve, market forces can crush it. Always remain aware of how your operations, information flow, innovation and competitive management create value. Be alert to unanticipated challengers. Kmart dismissed Wal-Mart as a competitive threat until it was too late. Detroit disdained Japan's carmakers until they began taking significant market share in the '80s. Customers seek the best value for their money so you must create more value than your competitors.

Managing with Lean Dynamics

"Lean dynamics" can help your firm overcome disruptions and uncertainty, and maintain and increase value. Although Toyota, Southwest Airlines and Wal-Mart are leaders in very different industries, they each share five lean dynamics characteristics:

1. **"Planning for chaos as the norm"** – Be prepared for a crisis. Rare events are not impossible events.
2. **"Managing for a rising tide"** – Use a deep, broad management style that lays the foundation for future success. Prepare for change and progress.
3. **"Creating dynamic stability"** – These companies remain stable amid chaos. They build in dampeners for variation as tall buildings use dampeners to manage their natural sway.
4. **"Overcoming the culture of workarounds"** – Tweaks and dodges only appear to help your system. In fact, they create the very disruptions and variations you need to avoid.
5. **"Mitigating the perception of risk"** – Don't view all risk in the same light. Your richest opportunities include risks you should embrace and exploit. Manage other risks so you can deal with them quickly.

Measuring Supports Leadership

While you cannot manage what you don't measure, sometimes measuring the wrong things can lead to profoundly bad decisions. Ford Motor's greatest sales disaster, a car called the Edsel, was the result of its desire to exploit a market segment its experts had studied using past data. By the time the Edsel debuted, its market no longer existed. Old-style task-oriented operations don't work for modern firms with complex products and multiple, global suppliers. Today, managers must compress the time between actions and outcomes. To approach this challenge in a lean way, use such methods as Six Sigma to build in zero defects and to measure your processes and results. Measure only activities that produce reliable, compelling value, and then connect them in a steadily flowing value stream. Customers want goods with no variations. They want to depend on you, so you must be dependable. Yet, value creation changes over time so you must change too.

Think Value Stream Instead of Supply Chain

Henry Ford created his vast manufacturing empire, in part, to feed his assembly lines. He needed raw materials to build parts and he needed parts to assemble cars. This "supply chain," the integration of materials and processes, can accumulate waste. Your challenge is to figure out how waste accumulates in your system and to eliminate it. In Ford's day, manufacturers ordered huge, costly supply inventories based on production projections. They had to order far in advance of actual need because suppliers (even internal suppliers) required lead-time to create components. Often, no one within a firm knew exactly how much inventory was on hand, so managers placed orders to protect against a lack of parts. Some parts could be in the process for months. Such waits and backlogs are very wasteful. Toyota and Wal-Mart led the way in connecting their information systems to their supply processes. This let them eliminate inventory, and receive parts and goods as needed.

Lowering Your Range of Variability

Creating goods with no variation is impossible, but to the extent that your products vary in quality, time to delivery, availability or any other factor, you lower customer satisfaction and long-term return on value. If the variations become too pressing, customers will go elsewhere while you spend money fixing your variances and trying to regain their trust. Therefore, Toyota works hard to level and narrow its range of variation, including making its suppliers into true partners. You can implement such partnerships by using lean dynamics and aligning your work by product family. Group related products together and manage them for predictable value by sharing their materials, tooling, setups, cycle time, worker skills and flow. To smooth these processes, focus on every detail.

> "The bottom line is fairly straightforward. Transformation takes time, great focus and tremendous commitment to stay the course for the long haul."

Emulate Toyota by making your processes customer-driven. Toyota's chief production engineer Taiichi Ohno observed that supermarkets let consumers pull items off the shelf and then the store managers use the customers' purchasing patterns as signals for what to buy. Toyota adopted that mindset. It understands the impact of on-demand "pull" and works to create the systems and corporate culture to support it. Just as supermarkets use every customer's purchases as an inventory management clue, Toyota emphasizes its line workers' demands, ensuring that they have sufficient inventory to meet their quality requirements. Toyota tries to deal with the sources of mistakes and variance before they occur. Its pull philosophy eliminates excess inventory, provides customer value and earns profits.

Giving Form to Your Lean Dynamics Transformation

To implement lean dynamics, begin with a solid plan. Build your case for change by assessing your organization's needs. Use a value curve to demonstrate your challenges and to show how lean dynamics can help. Create a compelling, inspiring vision of the lean dynamics work environment to sell your concept to everyone affected, particularly the management team, because this strategy requires strong executive, stakeholder and workforce support. Demonstrate lean dynamics' constraints and benefits, starting with restructuring your operations according to product families. Lay the foundation for success by:

- **"Quantifying the objectives"** – Lean dynamics isn't about feelings or soft objectives. State your goals in terms you can quantify and measure.
- **"Building the knowledge base"** – Capture the information your company already has about each task and operation so you can build on it.
- **"Attaining a baseline of stability"** – Pick a point you can use as a restart in a crisis.
- **"Identifying product families"** – Realign your products into family groups.
- **"Structuring value streams" the way your customers see them** – Goods that customers will pay for add value; anything people won't pay for is waste. The value stream is the "buildup of value from its basic elements to final products or services."
- **"Mitigating vulnerabilities"** – List weaknesses and determine how to minimize their impact.
- **"Measuring results"** – Manage your processes by comparing measurements to goals.

> "With lean dynamics, the need for frantic activity is replaced by ongoing vigilance."

Other companies' successes with lean dynamics offer these lessons:

- **Don't just tweak your present system instead of using lean dynamics** – Workers may resist new initiatives, but workarounds often make matters worse.
- **Focus on sustainable value** – Lean removes fat and roots out systemic sources of lag.
- **Speed of throughput is not the same as dynamic flow** – Even if your operational speed is good, your upstream and downstream processes may still be filled with lag.
- **Consultants are helpful** – But they are no substitute for corporate leadership.
- **Expect that lean dynamics will not be easy –** Implement lean dynamics properly so you can enjoy its long-term benefits.

Winning Against Crisis

Too often, companies assume that their path to success was inevitable and that simply keeping their present system going will support their continued dominance. They see concern about possible threats as an empty exercise. Detroit automakers never believed Toyota could surpass them, yet it did. Kmart's leaders never thought that upstart Sam Walton would push them to bankruptcy, but he did. Major airlines hemorrhage cash as Southwest makes profits. What can you learn from that? Never allow your organization's culture to settle into a mindset of entitlement. Stay on top of its value curve and continually adjust to maintain a favorable position before any sudden disruption threatens you. Lean dynamics can help you to thrive in conditions that others view as chaos. But you have to implement it well, and continue to tailor it to constantly changing conditions. The price of success is courage, diligence and vigilance.

About the Author

Aerospace engineer **Stephen A. Ruffa** developed the concept of lean dynamics while working for more than a dozen aerospace firms in U.S. Defense Department projects. He is the co-author of *Breaking the Cost Barrier,* which won the Shingo Prize for excellence in manufacturing research.