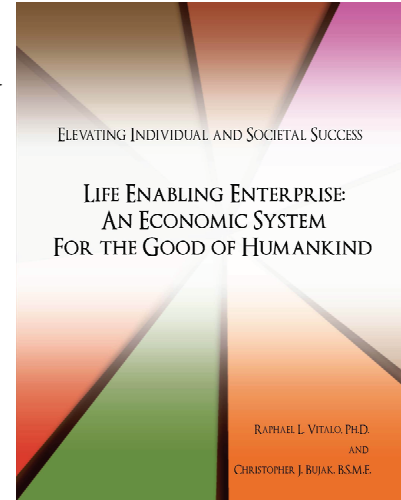


How Businesses Apply Lean Thinking

Raphael L. Vitalo, Ph.D. and Christopher J. Bujak, B.S.M.E.

Introduction

Businesses apply lean thinking to achieve two very different ends. One end seeks to adopt the lean approach to commerce and recreate the business as a lean enterprise. This *full* adoption of lean thinking results in a business with all the features detailed in Vitalo and Bujak's (2023) contrast of a lean enterprise with as traditionally run business. The other end seeks to produce near-term financial benefits for the business by implementing selected lean tools and ideas. These limited applications of lean thinking are intended to improve financial success by reducing cost, downsizing labor needs, increasing margins, elevating labor productivity, increasing throughput, or other similar actions. They are not intended to change the firm's business model or alter the organizational strategy it uses to implement it. In fact, these limited applications of lean thinking are "non-lean" in nature, since maximizing financial results is a by-product of applying lean thinking and not its primary focus. Also, these endeavors are not rooted in an understanding of customer values nor do they include any effort to add value to the business's offering in ways customers desire. Rather, they are rooted in a producer's desire to eliminate a barrier to or advance the achievement of better financial performance in the service of its managers and owners.



Clearly, these two applications of lean ideas have very distinct profiles of outcomes. As a person leading a lean initiative, you must be able to distinguish between these applications and understand which it is that your initiative is expected to implement. Absent this understanding, you will fail to accomplish your purpose.

Full Adoption of the Lean Model

When a business fully adopts the lean approach to commerce it transforms itself into a lean enterprise. It alters its business model to embrace lean thinking in every detail. This new direction modifies the company from every perspective.

- Strategically, the company puts in place and practice a purpose, vision, and set of core values; methods of competition and an organizational strategy; and internal business systems (e.g., business planning, human resource management, accounting) that are consistent with the lean approach to commerce as described by Vitalo and Bujak (2023). It formulates its business's purpose in accordance with the goal of the lean approach to commerce that they document (Exhibit 1, next page).
- Operationally, it implements businesswide the activities described in the process, outputs, feedback, and interface components of the lean enterprise model as described in the *The Lean Champion Resource Guide* (Vitalo, Bujak, Vitalo, Bierley, and Ruffino, 2023, pp. 22–34).

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Exhibit 1. Lean’s Goal as Defined in Vitalo and Bujak (2023)	
Goal	
To:	Provide its customers an ever-more value laden and success enabling product or service and buying–benefiting experience
For:	Customers, employees, owners, suppliers, and the communities and governments within which the business operates
By:	Eliminating waste in everything it does, maximizing its delivery of value to its customers as defined by its customers, benefiting all its stakeholders inclusively, and developing a workforce that sustains these activities into the future
So That:	All participants in the business prosper
Conditions:	The markets it operates in must be free. A lean enterprise cannot succeed in markets where customers lack the freedom to choose because of monopolistic practices of producers or protectionist policies of governments or where prospective customers lack understanding of their real needs or are incapable of making effective decisions. ¹
Success Criteria: ²	<ul style="list-style-type: none"> ■ Customers receive an ever-more value laden and success enabling product or service and buying–benefiting experience. ■ Employees have greater control over their work, elevated capabilities to eliminate waste and add value, increased pride of workmanship, expanded career opportunities, and fair participation in the monetary benefits their contributions generate. ■ Suppliers have greater success in conducting their own businesses by incorporating lean thinking with your support and deliver greater value to your business. ■ Owners have a business that continuously increases its production of value, generating financial returns, and engendering pride as a result of its reputation as a business that delivers exceptional value to its customers and provides its stakeholders the benefits they seek. ■ Communities and governments within which the lean enterprise operates have more capable citizens and experience more wealth and work opportunities as a result of the business’s growth and success.
<p>¹ This condition applies to the full application of the lean enterprise approach. The limited use of lean ideas and tools can produce near-term cost reduction benefits for producers anywhere, but cannot achieve the above specified goal.</p> <p>² The statements recorded here are abridged versions of properly constructed success criteria. Use the guidance provided in the chapter <i>Task 9 Measure Results of The Lean Champion Resource Guide (Vitalo, Bujak, Vitalo, Bierley, et al., 2023)</i> to transform each into a properly constructed success criterion.</p>	

- Structurally, it organizes itself into separate business units with each containing all the components required to do commerce. Each business arranges itself into the business functions whose value streams provide the unique contributions that collectively produce value for customers. In this configuration, every enabling value stream aligns its functioning to support the production or service fulfillment value stream.

As a lean enterprise, business leaders manage it from a systems perspective, thus they never allow a change in any element of the enterprise to compromise the effectiveness of the enterprise as a whole. They always use information-based problem solving and decision making methods.¹

¹ Information-based methods analyze and interpret facts to make a decision. They maximize the options a person considers and operationalize the values that the “best choice” must satisfy. They systematically evaluate each option with respect to its likely success in achieving the person’s goal and satisfying the decision maker’s values. Knowledge-based methods apply a set of knowledge to logically deduce from relevant facts which choice to elect or how to correct a problem. See chapters *Task 6 Solve Problems* and *Task 7 Make Decisions* in *The Lean Champion Resource Guide* for a full description of these methods.

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Their decisions are guided by a deep understanding of their customers' values, enabled by valid measurements of business performance, and driven by the edict to maximize every customer's experience of value while benefiting all other stakeholders inclusively. Management's approach uses high levels of employee involvement, engaging employee participation in all aspects of the business and supporting their use of problem-solving methods to improve everything it does. Leaders and members drive lean thinking through every level and every activity of the business—from governance through grounds maintenance, from the back office to the store front. They rapidly align all its enabling systems to satisfy the requirements of a lean enterprise. These enabling systems include its human resource management systems; its information technology systems, including especially the information architecture underlying these systems; and the chart of accounts driving its accounting system. Human resource management systems (selection, development, appraisal, promotion, pay, awards, and incentive systems) find, get, develop, support, recognize, and promote people who are educated and aligned to the principles of the lean approach to commerce, excited by the challenges and opportunities it offers, and skilled at and committed to learning in the service of realizing the company's purpose and to working together with fellow employees as a team. Such people place the pursuit of perfection ahead of tradition.

In the service of these people, the business's information systems supply the performance information required to guide the conduct of business. They make information about customer and stakeholder values and supplier needs accessible and rapidly disseminate learning across the enterprise. The chart of accounts driving the accounting system is restructured so that each revenue/profit center aligns with a specific business² that the company implements and the tracking of financial activity allows accounting down through each business function to the work processes and work units within it. In essence, a full adoption lean initiative transforms a typical business into a "lean enterprise."

Limited Applications of Lean's Ideas and Tools

A limited lean application selectively applies lean ideas and tools to achieve near-term improvements in financial performance. It may introduce the concepts of Total Productive Maintenance to improve machine uptime, or the concepts of flow without takt time to de-bottleneck processes and reduce inventory needs, or implement Kaizen events to eliminate waste as a means to reduce cycle time, improve throughput, and reduce cost. It may apply 6S³ to free up facility space thereby avoiding the cost of adding new facilities. In each instance, the tool application improves the financial performance of the business. What it does not do is create a lean enterprise.

² A business is defined as a set of operating components that conceive, develop, resource, produce, market, sell, distribute, and support a product or service offering targeted to satisfy the needs of some customer. Many commercial organizations that imagine themselves as a single business are actually composed of many distinct businesses. See *Rationalizing Your Company's Organizational Structure in The Lean Champion Resource Guide* (Vitalo, Bujak, Vitalo, Bielery, et al., 2023) for a full discussion of this issue and its importance for implementing a full adoption lean initiative.

³ 6S is an updated version of the traditional 5S method. It adds "Safety" as the sixth facet in improving the utility of workplaces (Roll, 2005).

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Prevalence of Limited Lean Initiatives

Almost all lean initiatives are of the limited lean initiative type. This judgment is based on research, conversations with people involved in lean applications across many companies, and our own consulting experience. Our perspective is that the adoption of lean has followed the same pattern that has appeared with every business innovation—namely, that elements of the new approach are grafted onto existing business models and management methods. Any new ideas that require their modification are not implemented.

As examples of the facts underlying our judgment, consider the revelations about Delphi Corporation's implementation of the lean model. Delphi was promoted as a leading example of lean transformation—yet, after its declaration of bankruptcy, it was revealed that lean thinking was applied in only a minority of its plants and had not penetrated into its executive and management functions (Waddell, 2005). This is consistent with the results of our benchmarking study of renowned, high-performing companies in the late 1990s. In every case, we found pockets of activity but no broad and thorough adoption of any of the methods for which each company was being praised (e.g., Total Quality Management, Lean, SixSigma™).

Also, compare business leadership's widely claimed adoption of employee involvement with the highly limited degree to which businesses actually delegate decision-making authority downward or permit employee participation in deciding business goals and policies (Lawler, Mohrman, and Ledford, 1995; Lawler, Mohrman, and Benson, 2001). You cannot adopt the lean model without incorporating high levels of employee involvement including delegating authority downward.

Finally, consider a recent study of consistency between company scorecards used for distributing rewards and the expressed adoption of the lean approach to commerce (Searcy, 2004). It found that financial results ranked higher in importance than customer satisfaction in five of the six companies studied. This is an inversion of the priorities lean thinking maintains.

For these reasons, we conclude that most lean implementations are limited in nature. They use the language and tools of lean thinking, *but* their focus is to drive up productivity and drive down costs with the intent of maximizing profitability for the producer. It is this use of lean thinking that gives credibility to the acronym "L.E.A.N.," meaning "less employees are needed."

How Can You Use Lean's Ideas But Not Be Lean?

Here is a fast and simple way to leverage lean ideas and tools and not adopt lean thinking. Learn the forms of waste, use lean tools to eliminate them, and retain the benefits generated for the owners of the business. The forms of waste (hazard, inspection, interruption, inventory, motion, rework, search, setup, travel/transport, unnecessary processing, and wait) all add cost and most add cycle time—the time it takes to produce a unit of output. Eliminate them and you will reduce cost and improve productivity and throughput.

Some amount of benefit might reach the customer—for example, if you attack the problem of rework, you may reduce the number of defective products reaching customers. But it is absolutely possible *not* to add value from the customer’s perspective and still improve a producer’s financial performance, especially if you focus heavily on reducing cost and cycle time and retain all the benefits for the producer. You can certainly accomplish these ends while continuing to provide an offering that lacks features customers desire. You can leave untouched your customers’ buying–benefiting experience and you can keep the cost reductions you reap from your operating improvements as added profit. The concept of waste is a powerful tool in uncovering improvement opportunities and lean’s waste-eliminating tools *are* effective. Whether they serve the producer alone or others such as customers and suppliers inclusively is wholly a function of the producer’s business model.

What the Lean Champion Must Know

The implication for you as a person leading a lean initiative is that you must understand the degree to which your business’s leadership is willing to adopt the lean approach to commerce as opposed to simply incorporating lean tools and methods for the purpose of improving its near-term financial performance. Yes, you can use lean’s tools to successfully accomplish a limited lean application. However, to do so, you need to clearly grasp what about lean thinking, if anything, your business is adopting and what it wants to leave out. Otherwise, you will mislead yourself and others. You will set goals that you cannot achieve, use language and introduce concepts that do not apply, create expectations you will not satisfy, and eventually, you will undermine whatever it is you are actually trying to accomplish.

Also, you need to evaluate carefully whether a proposed limited lean initiative can succeed before you undertake it. Limited applications of lean ideas and tools require careful evaluation because what your company’s leaders seek to leave out from its adoption of lean thinking may make it impossible to accomplish the ends they seek. The chapter *Task 1 Focus the Lean Initiative* in *The Lean Champion Resource Guide* (Vitalo, Bujak, Vitalo, Bierley, et al., 2023) provides detailed guidance to assist you in understanding what type of initiative you have been asked to accomplish and whether it is feasible as defined. For now, Exhibit 2, next page, offers some additional guidance for detecting when the purpose being pursued is a limited application of lean thinking. The presence of any of these features indicates such a purpose.⁴

⁴ This distinction between how companies apply lean thinking has significant implications for research into the effectiveness of the lean approach to commerce. If, as we conclude, most companies using the label “lean” have implemented limited lean initiatives, they are not proper subjects for evaluating the model’s efficacy. How one qualifies lean adopters, therefore, becomes a critical element in designing a study that will generate useful findings. Exhibit 5, pages 37–50, in *The Lean Champion Resource Guide* (Vitalo, Bujak, Vitalo, Bierley et al., 2023) offers a set of defining features that researchers could use for this purpose. We caution, however, that the judgment of whether these features are present cannot be made by the self-report of company leadership as the studies cited earlier (Searcy, 2004, Waddell, 2005) show the serious gaps that can exist between such reports and the facts on the ground.

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Exhibit 2. Features of a Limited Lean Application

Limited lean initiatives have one or more of the following characteristics. Full adoption initiatives have none.

- They are typically anchored in a subunit of a business function, usually production or service fulfillment, and will not be implemented across the entire function or the whole business.
- They pay little attention to understanding value from the customer's perspective. For example, there will be little to no effort expended in uncovering what customer's value and how well the business's offering is satisfying their values. Rather, if the customer's perspective is used to make decisions, anecdotal notions about what customer value offered by management will be substituted for factual analysis.
- There will not be a business-level key performance indicator for improving the customer's experience of value or, if one exists, it will have no influence on deciding bonuses or other executive-level incentive payouts.
- The initiative will likely be "lean tool" focused—e.g., implementing Kaizen events, installing 6S, establishing a preventive maintenance program, etc.
- The initiative will leave untouched executive and upper management processes like strategic planning, budgeting, and financial management. Decision making at the leadership and management levels will also be untouched.
- The initiative will bypass, or address in a token manner, important functions like research and development, marketing and sales, human resource management, and information technology. Most notably, all enabling systems, especially human resource management systems, will remain unaffected.
- Decisions about the initiative will be based on near-term concerns—usually the pressure to reduce cost or cycle time or both.
- Decisions about who must and who does not have to participate will be affected by politics.
- Largely reflective of this political influence, the lean initiative will not subsume other change-making functions such as Quality, Organizational Effectiveness, an Enterprise Resource Planning (ERP) installation, or any other change-making projects. Rather, these overlapping activities will be allowed to continue independent of each other.
- As a rule, there will be limited involvement of employees in the initiative. Management selected employees may participate in making improvements, but their role in shaping the effort and participating in the benefits it yields will be controlled.
- Finally, there will be a guarded approach to suppliers or they may be left out completely.

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