

BOOK REVIEW

LEAN THINKING

By

James P. Womack and Daniel T. Jones
Simon & Schuster, New York, NY, 1996

Reviewed by:
Robert A. Kemp

Businessmen and women everywhere, owners or managers of businesses of every kind and size must worry constantly about their competitors and the level of competition. The competitors all offer our increasingly astute and demanding customers more ways to satisfy rising expectations. Similarly, managers are bombarded daily by arguments that we must be better. We have "right sized", "down sized", "re-engineered" and taken other actions to cut costs and be more effective, but for many firms the situation has not improved. Indeed, for many the business situation, in terms of competition and cost control, has not improved; and even worse, for some it has actually deteriorated. Every businessperson worth his or her salt understands that operations have to improve to create more customer satisfaction, better support for those who contribute their lives to the business, build more wealth for the owners, and make a better contribution to society. The search is for sustainable growth and success. The question is how do we lead and manage organizations to make this happen? Womack and Jones brilliantly answer this important question in their book, *Lean Thinking*.

In the landmark book, *The Machine That Changed the World*, the authors explained how companies could dramatically improve operations through the "lean production" approach developed by Toyota. This book, *Lean Thinking*, extends those ideas and provides new opportunities for the business leaders of today. Currently, much of managerial focus is on organizational structure, outdated concepts of value, and processes that continue to waste important human and material resources. It is critical that managers focus on processes that create value for the customer.

The authors demonstrate that they believe and practice what they preach. *Lean Thinking* is a succinct book. It has three parts with 13 short chapters requiring only 300 pages. There are no wasted words here. Even so, this book belongs on every manager's reading list. Similarly, it should be required reading for every professor of business—regardless of discipline. Every one must be challenged to understand what value is to the customer and how value is created in the business process. In this book, Womack and Jones take us by the hand for a trek along the value stream of serving the customer. This book is not just theory; rather it is the theory demonstrated by practice and process in companies that have made the leap to lean thinking. With separate examples, they show how the process of lean thinking works in big and small firms in the United States, the United Kingdom, Japan, and Germany.

Womack and Jones are two of the top industrial researchers in the world. Womack maintains a research affiliation with the Japan Program at the Massachusetts Institute of Technology and is an adviser to North American firms making the change to lean operations. Daniel Jones is Director of the Lean Enterprise Research Center at the Cardiff Business School, University of Cardiff, Wales, UK. He is an adviser to European firms making the lean leap. This book, *Lean Thinking*, is their second major book as a team.

Professor Eberhard Scheuing has noted that Professor Richard Lamming, University of Bath, United Kingdom, points out that innovation requires destruction; "This is a daunting and exciting challenge for managers—to plan and organize the self destruction of the system, and its renaissance, to ensure long-term survival." On a similar vein, Albert Einstein once noted that, "We cannot solve problems with the same thinking we used to create the problem." Womack and Jones have maximized the impact of these thoughts in *Lean Thinking*. What Professor Lamming calls destruction and renaissance, Womack and Jones call a "leap to the new organization." In *Lean Thinking*, Womack and Jones show us step by step how to destroy the old hierarchical, departmentalized, and inefficient organization to prepare to leap to the new efficient organization that creates value as a stream along the supply chain and manages flow—the *lean enterprise*.

Part One defines the value stream and how traditional business practices waste value along the acquisition and production process by wasting time, materials, and human resources. Waste caused by traditional practices is the absolute antithesis to value. Waste is defined as any activity that uses resources but creates no value for the customer. The value stream that provides customers more than they expect includes all activities from product concept and launch, through order and delivery of materials, transformation and delivery, and the final service. As value is created along the entire supply chain, it is imperative that the managers think and manage along the entire supply chain. It is this flow of activities that create value.

The five principles of lean thinking are introduced and carefully defined in Part One. In order, the principles are:

1. precisely specify value by specific product,
2. identify the value stream for each product,
3. make value flow without interruptions,
4. let the customer pull value from the producer, and
5. pursue perfection.

When we undertake lean thinking, we have to tie the principles together to make full use of lean thinking. It is important to note that any manager dedicated to radical change can understand and apply these principles to the firm—large or small. To apply lean thinking requires that managers first prepare the organization for radical reform. Often times the firm is in or near crisis so the actual recognition that radical reform is needed comes from recognizing that the crisis is at hand.

Historically, we have designed our organizations with boundaries and our conceptual processes are guided by these boundaries. Boundaries hinder resource flow and nearly always restrict the use of information up and down the value stream. Similarly, the traditional organization is typically built around functional departments that fail to communicate openly and freely. Information, if it flows at all, flows up and down the hierarchy. Time is wasted. For lean thinking, a key element in defining value and breaking from the antiquated mind sets of traditional organizations is the need to develop and promote organizational transparency. Transparency, internally and externally, means that information is shared to support and enhance the flow of value toward the customer.

Doyle Wilson, owner and manager of Doyle Wilson Homebuilder in Austin, Texas, knows that lean thinking works. He discovered in 1991 that waiting used 83 percent of the six months it took to build a new home. They were waiting for the next process to begin or to redo something that had been done wrong. He decided that the process had to be more efficient. Over the next three years Wilson personally taught his workforce the principles of TQM, and collected and analyzed enormous amounts of information on every part of his operation and the market. He eliminated sales commissions and "builder bonuses" for his superintendents, downsized the contractor base by two-thirds, and required those remaining to pay for and complete his monthly quality seminars. Construction time for a new home was reduced from six months to 30 days. Customer surveys showed a steady increase in customer satisfaction and sales increased, even in a flat market. Wilson continued to improve the operations. They added a one-stop sales center where the customer can see, discuss, and choose every option available for a new home. This process includes standard options as well as options to customize the new home. When the design is selected, the exact price is calculated, the mortgage is prepared, the title searched, and insurance is arranged. It is a one-stop process for the new homeowner. In 1995, Doyle Wilson Homebuilder won the National Quality Housing Award. It is often called the Baldrige award for the construction industry. He aspires to winning the Baldrige award in 1998.

Part One ends with five rules of thumb that are the carefully drawn results created by organizations that have made the leap to lean thinking. First, organizations that convert from the classic batch and queue production systems to continuous flow, based on pull, will double labor productivity while cutting production times and inventories by 90 percent. Second, errors reaching the customer, production scrap, and production injuries will be reduced by half. Third, time-to-market will be cut in half and a wider product family can be offered. Fourth, capital investments are typically quite small and indeed may be negative. Fifth, these improvements can typically be doubled again in three years by incremental improvements to the lean enterprise. These achievements are astounding, and benchmarking and observation verify the results.

As I noted earlier, this book provides both the theory and the process. Part Two of the book takes the reader to and through the trials and tribulations of eight companies making the leap to lean thinking. The companies are American, English, German, and Japanese. Different industries are included as well as large and small firms. The case examples include a house builder, a British grocery chain, two smaller U.S. manufacturers, a very large aircraft engine company, a classic German automobile company, and two Japanese manufacturing firms. It is clear from the detailed examples that lean thinking can be accomplished by anyone dedicated to radically transforming the organization for long-term survival. Having said that, we must also note that lean thinking is not for the faint of heart or the misguided manager searching for the "quick fix" to cook the books for the next quarter. Lean thinking means radical transformation of the firm. Making these changes takes time and requires great commitment to the objective.

Both the theory and process that Womack and Jones present are exciting. It is even more exciting to see that what they say about lean thinking closely supports and enhances other research. The theory and processes of supply chain management developed over the last few years are enriched by the work of Womack and Jones. Similarly, Michael Porter, writing in *Harvard Business Review* (Nov.-Dec. 1998), defines the new economics of competition based on regional clusters with knowledge, relationships, and motivation that distant competitors cannot hope to match. Porter's definition of clusters includes much of what we call supply chain management. Much of what Womack and Jones call the value stream and transparency is needed if the cluster is to be truly effective. It all fits together and it means that we must change our organizational processes and the policies that guide the acquisition and use of resources.

Part Two ends with an "action plan" for the radical transformation of any organization. It includes detailed procedural and process discussions that include research, recognizing or creating a crisis, getting started, dealing with people, and training. These discussions include an idealized timeframe that shows managers that we are in this for the long haul. The final challenge is that the change process is never complete—it is just extended.

Part Three provides a philosophical discussion concerning how lean thinking fits to different cultures. It challenges the reader to come to grips with why things are as they are. Most things are not founded on irrefutable law, rather it is the way our predecessors laid them out and it has never been changed. We are challenged to ask why.

Womack and Jones have provided us all, professor and practitioner, a great service. Their book challenges us to rethink our work, our communication, our use of resources, our concept of value for our customers, and, most of all, our innate drive to create a firm that can survive in the world of tomorrow. For businesses, this means radical reorganization based on the supply chain (value streams). It means destroying the old hierarchical, department-dominated structure to reorganize around the flow of value in the family of products provided. For professors and colleges of business, *Lean Thinking* challenges us to consider the same factors and process. Our narrowly defined departments which are based on disciplines established years ago, are, distinctively obsolete and do little to help the flow of knowledge to the customer. Even worse, in many cases, the desires and traditions of senior professors narrowly define many courses. Colleges and departments that have not been drastically reorganized to create a value stream should study *Lean Thinking* and benefit from its merits.

As professors who take pride in teaching students to be consultants to help others, we need to understand and apply lean thinking in our work. We may never lead a firm to be a totally lean enterprise, but if our students help smaller firms reduce waste, significantly reduce inventories, create pull based on customer needs, and understand that the firm must be transparent in its supply chain (value stream) we will have made a great contribution. Equally important, if we instill our students with the ideas of lean thinking we will achieve results through them far beyond our expectations. The question is, "Are we willing to make the radical transformation?"

Lean Thinking is a book for all of us, and we ought to use it.

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