

Michigan Quality System
Self Study Module: “Developing a Lean Thinking Mindset”

Purpose:

This Self Study Module is intended as an introduction to Lean Thinking principles, vocabulary, tools and methods.

Learning Objectives:

The learner will develop:

- Fluency with Lean vocabulary.
- Understanding of Lean Thinking principles.
- Familiarity with Lean Thinking tools.
- Ability to create and use a Value Stream Map.
- Appreciation of the application of Lean principles and tools to health care.

Audience:

UMHS Faculty and Staff

Format:

Independent Study

Method:

Reading assignments from relevant books and articles

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Instructions: This module has 3 reading assignments followed by self-study questions.

1) **Read the following two articles** describing the application of lean principles in health care settings:

- a. **Spear S “Fixing Healthcare from the Inside, Today” Harvard Business Review. September 2005.**
- b. **“Going Lean in Healthcare” Institute for Healthcare Improvement Innovation Series, 2005.**

2) **Select and read one of the following two overview texts.**

The texts described below provide straightforward, readable introductions to lean thinking as a management philosophy, and its application in diverse manufacturing and service settings.

- a. **Liker J. *The Toyota Way: 14 Management Principles from the World’s Greatest Manufacturer*. McGraw-Hill, 2004.**

The Toyota Way describes how the right combination of long-term philosophy, processes, people, and problem solving can transform an organization into a Lean, learning enterprise. The book highlights the 14 principles behind the revolutionary Toyota production system, recognized as the world leader in manufacturing excellence. Liker explains how Toyota’s culture of quality goes beyond tools and techniques to encompass:

- Fostering an atmosphere of continuous improvement
- Satisfying customers (and eliminating waste at the same time)
- Getting quality right the first time
- Grooming leaders from within
- Teaching all employees to become problem-solvers
- Growing together with suppliers and partners for mutual benefit

Author Jeffery Liker is a professor of Industrial and Operations Engineering at the University of Michigan, and the cofounder and Director of the Japan Technology Management Program.

Michigan Quality System

Self Study Module: “Developing a Lean Thinking Mindset”

- b. **Womack J. and Jones D. *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*. Free Press, 2003.**

Updated version of the 1996 business classic that first described the business system called Lean Thinking. Instead of constantly reinventing business models, lean thinkers go back to basics by asking what the customer really perceives as *value*, lining up value-creating activities along a *value stream*, while eliminating activities that don't add value. The lean thinker then creates a *flow* condition in which the design and the product advance smoothly and rapidly at the *pull* of the customer. As flow and pull are implemented, the cycle of improvement is speeded up, always in *pursuit of perfection*. *Lean Thinking* profiles companies from a wide range of industries to illustrate the basic principles of lean production, and their application in a variety of environments. The authors capture learning on implementing Lean, and the obstacles that organizations have encountered in their Lean transformations. An action plan template is also included.

Author James Womack is founder and president of the Lean Enterprise Institute, a nonprofit education and research organization dedicated to the spread of Lean Thinking. Daniel Jones is founder and chairman of the Lean Enterprise Academy in the UK.

- 3) **Select and read one of the following texts on Value Stream Mapping.**

A value stream map is a tool that documents the individual steps, material and information flow, and key data of a process. Either of the following texts provides an excellent introduction to Value Stream Mapping. Keyte and Locher focus on mapping of administrative and office processes, whereas Rother and Shook use an example from the production environment.

- a. **Rother M. and Shook J. *Learning to See: Value Stream-Mapping to Create Value and Eliminate Muda*. Lean Enterprise Institute, 1998.**

This workbook introduces the concepts of value stream mapping, using a step-by-step instructional approach to teach the tool. Using a fictional manufacturing case study, the book teaches not only how to create a value stream map, but also how to introduce flow and pull while removing waste in the value stream. The text is an easy-to-use self-instructional guide. Rother and Shook are both experienced lean practitioners.

Michigan Quality System

Self Study Module: “Developing a Lean Thinking Mindset”

- b. **Keyte B. and Locher D. *The Complete Enterprise: Value Stream Mapping for Administrative and Office Processes*. Productivity Press, 2004.**

This workbook provides step-by-step instructions, examples, team exercises and tips for creating Value Stream Maps in the office environment. The text is written in an easy-to-read style using a case study to teach the reader the basic concepts and application of Value Stream Mapping. Most lean efforts to date have focused on production processes, but an estimated 90% of waste eliminating opportunities in manufacturing may be found in indirect support operations. Based on this finding, lean experts Keyte and Locher have extended the use of the Value Stream Map to administrative and office processes.

4) Reflect on the readings, and respond to the following Self-Study Questions.

- a. Do you agree that Lean Thinking techniques can be adapted for application in health care settings? If not, why not?
- b. If you were to undertake a lean improvement project in your work setting, where would you choose to start, and why?
- c. Who are the key customers of your work? What steps have you taken to understand how they define value?
- d. What barriers would you anticipate to successful implementation of a “lean transformation” in your work setting?