State of Colorado Lean Model: Tools and Methods

Introduction to Lean

State of Colorado Lean Model

1 Learn Continuously							
2 Identify and Select Projects	**3** Scope and Approve Project	**4** Envision Customer Experience	**5** Evaluate Performance	**6** Characterize Issues	**7** Solve Problems	**8** Sustain Gains	
9 Actively Manage Change							
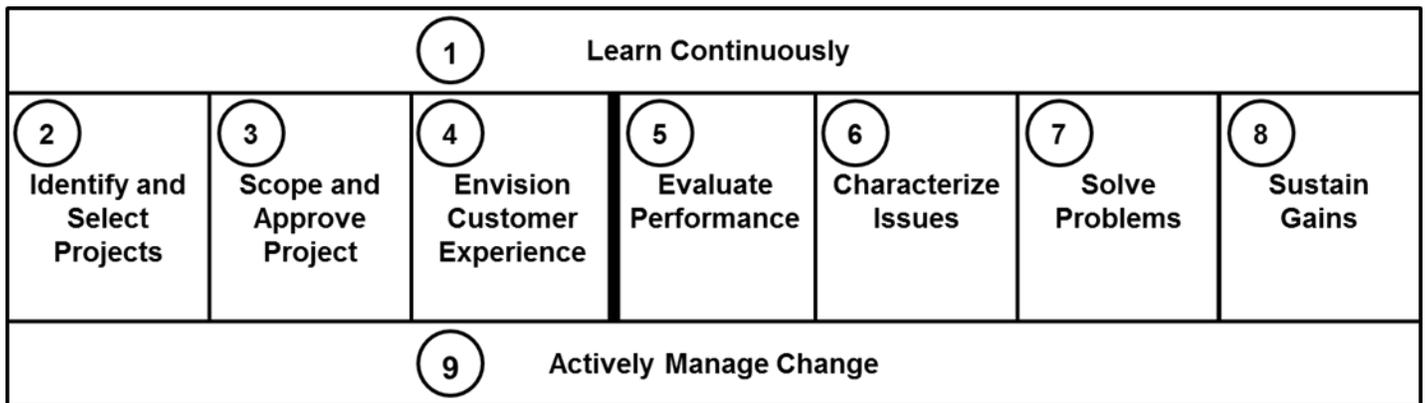
Introduction to Lean

Overview

Lean is a systematic approach to continuous improvement, applying principles and tools to identify and eliminate waste. While Lean was popularized in Japan, Taiichi Ohno, the father of the Toyota Production System, claimed he learned all he needed to know from three distinctly American concepts: the Indy 500, Ford's River Rouge Plant, and supermarket distribution. Toyota consolidated years of thinking into a systematic approach that is relevant not just to factories, but to business processes as well. The president of Toyota's support for the program was driven by the idea of removing waste as a result of two important beliefs that align to our goal of effective, efficient, and elegant state government:

- Waste is disrespectful of humanity because it wastes scarce resources; and
- Waste is disrespectful of individuals because it asks them to do work with no value.

While the list of Lean tools is long, there are just five guiding principles:

1. **Define value** – *value can only be defined by the customer;*
2. **Map value steams** – *documenting information and material flow that provide the product or service citizens require;*
3. **Create continuous flow** – *internally having everything ready as needed for a symphony of service or production;*
4. **Implement pull** – *provide a product or service only when it is needed and no earlier; and*
5. **Strive for perfection** – *relentlessly chase perfection through error proofing and continuous evaluation and improvement.*

Throughout your training you will be introduced to a number of principles, methodologies, and tools. To help organize all the different components of Lean and to assist you in taking the right action at the right time, the State of Colorado has developed its own Lean Model. As you are introduced to each topic, you will also learn how to apply the information within context of this framework.

Before we dive into individual topics, please take time to review the model in greater detail.

State of Colorado Lean Model


```
                        ( 1 )  Learn Continuously

( 2 )          ( 3 )          ( 4 )          ( 5 )          ( 6 )          ( 7 )          ( 8 )
Identify and   Scope and      Envision       Evaluate       Characterize   Solve          Sustain
Select         Approve        Customer       Performance    Issues         Problems       Gains
Projects       Project        Experience

                        ( 9 )  Actively Manage Change
```
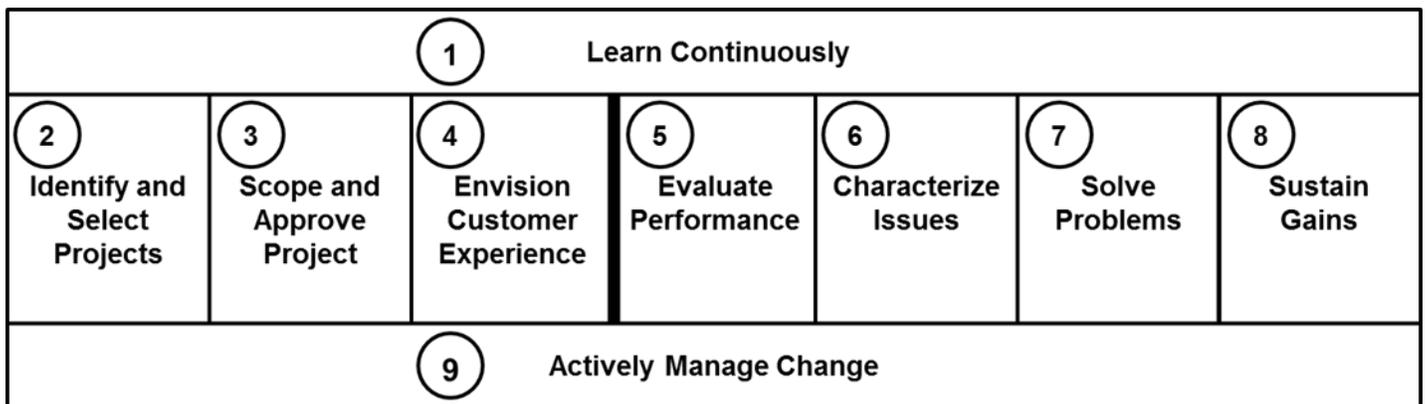
Key Information

✓ Lean is a systematic approach to continuous improvement that aims to make processes more efficient, effective, and elegant by eliminating waste.

✓ The Lean methodology can be summarized into five key principles but is supported by numerous tools and techniques.

✓ The State of Colorado Lean model will help provide a framework for all Lean tools and methods.

Additional Resources

Book: Extreme Government Makeover by Ken Miller
Book: Lean Thinking: Banish Waste and Create Wealth in Your Corporation by James P. Womack, Daniel T. Jones
Article: http://www.lean.org/WhatsLean/Principles.cfm

Introduction to Lean (cont'd)

State of Colorado Lean Model

This model will help you understand how Lean components relate and work together to form a continuous improvement cycle.

1 - Learn Continuously

Lean is comprised of a multitude of principles, methodologies, and tools. While you will be armed with the basic tools you need to get started, you will need to continue to refine and deepen your knowledge. Lean cultures are based on continuous improvement and your development is no exception. Leaders in a Lean organization will be expected to continue their learning through self-guided materials or additional course work.

Operationalize Lean

Sponsors, champions, and Lean project leaders work together to operationalize Lean. Operationalizing Lean is not confined to project completion; it also includes daily management and on-going process evaluation. Sponsors and champions will assist project leaders as they execute projects by guiding the project approach, offering insight, and asking probing questions.

This process is broken into (7) main phases to help compartmentalize the tools and methodologies, but some tools may span across phases. As you continually advance your Lean knowledge and experience, you will begin to see the ways you might leverage a practice in more than one area.

2 - Identify and Select Projects	3 - Scope and Approve Projects	4 - Envision Customer Experience	5 - Evaluate Performance	6 - Characterize Issues	7 - Solve Problems	8 - Sustain Gains
▪ Identify potential value streams and service areas that could benefit from a Lean approach ▪ Prioritize these opportunities based on criteria	▪ Complete project scoping, clarifying opportunity, targeted outcomes and project boundaries ▪ Gain leadership approval for scope, resources, and schedule	▪ Specify value in the customer's eyes ▪ Articulate the intended customer experience to guide Lean teams' efforts	▪ Clarify customer and strategic needs ▪ Establish performance baseline ▪ Narrow focus to key areas that impact process performance	▪ Identify and quantify defects and errors impacting performance ▪ Isolate root causes and prioritize problems	▪ Solve problems as a group ▪ Implement new methods for executing processes ▪ Enhance efficiency through workplace organization and cooperation	▪ Change the process and workplace to retain gains ▪ Establish monitoring of improved processes ▪ Engage all levels in process ownership and improvement
Topics ▪ Project Selection	**Topics** ▪ Project Scoping ▪ SIPOC	**Topics** ▪ Gaining Customer Perspective and Feedback ▪ Envision Customer Experience	**Topics** ▪ Value Stream Map ▪ Lean Process Metrics ▪ Value Add v. Non-Value Add ▪ 8 Wastes ▪ 5 Government Process Pitfalls	**Topics** ▪ Process Flow Diagram ▪ Check Sheet ▪ Histogram / Pareto ▪ Cause & Effect / Fishbone ▪ 5 Whys ▪ Spaghetti Chart	**Topics** ▪ 5S ▪ Kaizen ▪ A3 ▪ Workload Balancing ▪ Product Family Matrix ▪ Cellular Flow ▪ Kanban	**Topics** ▪ Visual Management Techniques ▪ Mistake Proofing ▪ Lean Daily Management (QDIP) ▪ Sustainment Checklist

9 - Actively Manage Change

Lean is founded on the idea of continuous improvement, so your organization and team will be improving processes frequently. This change will be beneficial, but it can be difficult as it requires adjusting to a new way of doing things. You will need to understand your stakeholders, develop and execute a communication plan, conduct training, and prepare to manage feedback and resistance.

Search Terms / Related Topics	▪ 5 Principles of Lean ▪ Toyota ▪ Overview	▪ Waste ▪ State of Colorado Lean Model ▪ Tools ▪ Methodologies ▪ Continuous Improvement