Simpler, Faster, Better, Less Costly

Lean.Ohio.gov

Revised August 2018
TRANSFORMING
the PUBLIC SECTOR

Participant Name

Training Dates
Welcome to LeanOhio Boot Camp!

You are about to embark on a journey that will invite you to look at your work in an entirely new way. You are in for four days of fast-moving, highly interactive learning and fun. You will be able to take the skills and tools that you learn back to your workplace to make things simpler, faster, better and less costly. You may even find ways at home and in the community to use these skills and tools.

This training course has been developed and refined over several years based on our experience in applying the business practices of Lean to the public sector. While governing is different than business, we can adapt business thinking and best practices to our organizations with great benefit.

During this course you will hear about many public sector organizations who have successfully applied Lean thinking and tools to make their organizations better. We continually learn from others about how they are using Lean, and our sincere hope is that you will become learners and practitioners along with us to make Ohio great!

Enjoy your Boot Camp experience and go do great things!

The LeanOhio Team
www.lean.ohio.gov

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DAY ONE
INTRODUCTION, OVERVIEW AND BASIC PRINCIPLES
WELCOME

Over the course of 4 days

Welcome to Lean Ohio’s Lean Boot Camp. Over the course of 4 days, you will learn about Lean, the History of Lean, Lean Principles, Lean Tools, and how to use them. Through experiential learning activities, you will engage with the topics from both a hypothetical and ‘real-world’ standpoint.

Introduction

- Name
- Organization
- Lean and/or Six Sigma Experience

Ground Rules

- Everyone Participates
- Engage in Open and Honest Dialogue
- Respect the Opinions of Others
- Work to Build Consensus
- Suspend Judgment/Blameless Environment
- Leave Rank at the Door
- Others:

Notes:
Video: Lean Ohio Overview

This video entitled, Lean Ohio - Overview was produced specifically for Lean Ohio. It highlights a number of agencies that have benefitted from the work Lean Ohio does. These are people from State and Local Government Agencies who began just as you are; by attending a Lean Ohio Boot Camp event.

- As you view this video, think about ways that your division can make improvements using Lean tools.
# Bootstrap: Four-Day Overview

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**Making the Invisible Visible** |
| • Lean Six Sigma Intro/Overview  
• Pre-Assessment  
• Team Dynamics  
• Four Voices  
• PDCA  
• SIPOC –Introduction to scoping  
• Project Selection  
• Project Charter | • Teams and Team Dynamics  
• Gemba  
• Process Mapping  
• Identifying Waste  
• Value Add/Non-value Add  
• Root Cause Analysis  
• Fishbone (Ishikawa) Diagram  
• Metrics and Data Collection  
• 5S |

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• Brainstorming  
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• Developing the Future State | • Implementation Plans and Tools  
• Making the Future State Happen  
• DoP Simulation  
• Measures of Success  
• Taking Lean Back to your Workplace  
• Show What You Know |
Boot Camp Road Map

1. Teamwork
2. Project Charter
3. Lean Principles
4. 4 Voices
5. SIPOC
6. Process Map
7. 5S
8. Poka Yoke
9. Data Collection
10. Standard Work
11. Clean Sheet Redesign
12. Implementation

Space for notes:
3 ZONES

1. Comfort Zone
2. Learning Zone
3. Panic Zone

EXPECTATIONS

Q. What do I want to be able to say, think, and/or do differently as a result of participating in this 4-Day Lean Ohio Boot Camp?

Q. What am I committed to do in order to get the most out of this Lean Ohio Boot Camp experience?
Video: Fable of Complexity

This video titled, The Fable of Complexity, is an excerpt from Ken Miller’s book, Extreme Government Makeover. You will soon see how honorable efforts in a City’s government spin out of control when attempting to meet rising work demands and reduce workload. The results are a suffocating overload! As you view this calamity, pay attention to the original problem and all the different attempts to fix it that follow. As the problem grows and grows, make note of each problem that is born from each attempted solution. Notice the changes among employees and the resulting frustration.

Ask yourself, do the changes they make demonstrate authentic change, or just modified reorganization?
What is Lean?

Lean is defined as a systematic approach to identifying and eliminating waste (time, money, space, effort) through:

- Continuous improvement
- Sequencing the service or product at the pull of the customer

“A lean focuses on speed without sacrificing quality for the customer”

Lean’s foundation rests on two pillars

- Pursuit of continuous improvement
- Philosophy of respect for people

Seven Key Principles of Lean

- Define value in the eyes of the customer
- Identify the process for a service or product
- Create continuous flow without interruptions
- Reduce defects in services or products
- Let customer pull what they want
- Eliminate or reduce variation
- Pursue perfection (Six Sigma)
Six Sigma

Six Sigma is a business management strategy originally developed by Motorola, USA in 1986.

- Collection of tools to improve the quality of process outputs by:
  - Identifying and removing the causes of defects (errors) and
  - Minimizing variability in processes.

- Sources of variation can be identified, quantified, and eliminated or controlled
- 99.99966% of the outputs produced are statistically expected to be free of defects. (3.4 defects per million)
  - In 1 million applications, prescriptions, road signs, etc. 99% means that up to 10,000 of that 1 million can be incorrect. With six sigma, 99.99966% means that 3.4 out of 1 million can be incorrect.

Notes:

- Green Belts are typically part time Lean Six Sigma practitioners. They do fewer projects and can help train other Green Belts. Green Belt training is 2 weeks. In Ohio government, Boot Camp (Camo Belt) is week one.

- Black Belts are typically Fulltime Lean Six Sigma practitioners with a great deal of experience. They train, mentor and coach Green Belts as well as doing projects. Black Belt training is 4 weeks in addition to GB.
History of Continuous Improvement

1. 1793 - 1800’s

2. 1901

3. 1940’s

4. 1950’s - 1970’s

5. 1980’s - 1990’s
Quality Way Pioneers

1. W. Edwards Deming (1900-1993)

2. Walter A. Shewhart (1891-1967)


4. Philip Crosby (1926-2001)

5. Kaoru Ishikawa (1915-1989)
Process Improvement

A process is the interaction of people, methods, materials, equipment, measurement, and the environment to perform a task or produce an output. Process Improvement is making improvements to that make the process simpler, better, faster, and less costly without compromising quality of the product, team, suppliers, or customers.

Team leader, time keeper, and a recorder. Each team is given a shuffled deck of cards, face down in the middle of the table.

Team Leader: Time Keeper: Recorder:

<table>
<thead>
<tr>
<th>Time Sheet</th>
<th>L</th>
<th>E</th>
<th>A</th>
<th>N</th>
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<tr>
<td>Round #1: Goal Time</td>
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<tr>
<td>Round #2: Goal Time</td>
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<tr>
<td>Round #3: Goal Time</td>
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<tr>
<td>Round #4: Goal Time</td>
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</tbody>
</table>

Plan for Round 1

Plan for Round 2

Plan for Round 3
Process Improvement

Dr. W. Edwards Deming said, *If you can’t describe what you are doing as a process, you don’t know what you’re doing.* Everything has a process, and processes can be improved. Dr. Deming promoted the Plan-Do-Check-Act Cycle or Plan-Do-Study-Act Cycle as the method for continuously improving processes. The purpose is to better meet the needs and expectations of the customers in an efficient manner.

The PDCA cycle and Lean thinking and tools will allow you to make meaningful, sustainable, positive change in your work and workplace. It requires you to thoroughly understand the problem and thoughtfully assess where the best opportunities lie rather than jumping immediately to solutions, which is usually our first impulse. Lean tools, like SIPOC, Process Mapping, Poka Yoke, Standard Work and many others provide a structured approach to making improvements.

The Plan-Do-Check-Act Cycle is a four-step model for making improvements
- Simple standardized method of improvement
- Repeatable and consistent
- “Scientific Method”
- Just as a circle has no end, the PDCA cycle should be repeated again and again for continuous improvement
## PDCA: Roadmap to Improvement

<table>
<thead>
<tr>
<th>PLAN</th>
<th>Identify Problem (problem selection guide)</th>
<th>Gather data and background (How do you know it is a problem?) What, When, Where, How much</th>
<th>Scope the issue: Develop SIPOC; Identify customer requirements (survey, focus group, interviews)</th>
<th>Develop charter/start A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Develop Data Collection Plan and gather data</td>
<td>GEMBA – go observe the process in the workplace. Develop a Process Map</td>
<td>Identify waste (TIM WOOD) and pain points</td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>Determine current state</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>Establish target goals/future/desired state</td>
<td>What measures will tell you if you are successful?</td>
<td>Make goals SMART</td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>Analyze the problem</td>
<td>Examine the data, Understand the causes of problem</td>
<td>Fishbone diagram, Pareto diagram, Run chart, bar chart</td>
<td>Find the Root cause of the problem, 5 Whys</td>
</tr>
<tr>
<td>P5</td>
<td>Determine best improvement(s)</td>
<td>Brainstorm improvement ideas, Evaluate (Impact/control matrix)</td>
<td>Select improvement(s) Use flow, poka yoke, standard work. Develop new process map</td>
<td>State a hypothesis: If we do XXXX, then we think YYYYY will happen</td>
</tr>
<tr>
<td>DO</td>
<td>Test your Improvement(s)</td>
<td>Plan implementation of a test of the proposed solution</td>
<td>Implement test solution. Gather data to measure success</td>
<td>Action register, Gantt chart Data collection tools</td>
</tr>
<tr>
<td>CHECK/STUDY</td>
<td>Check/study the results of your test</td>
<td>Evaluate results: Compare before and after measures</td>
<td>Seek feedback from customers</td>
<td>Determine if the actions taken were successful</td>
</tr>
<tr>
<td>ACT</td>
<td>Adopt, adapt or abandon. Monitor Tell your Story</td>
<td>Implement standard work. OR test another solution</td>
<td>Monitor: Collect data &amp; review periodically. Track results using visual management</td>
<td>Tell your story Complete the A3</td>
</tr>
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This page will be handy for future reference!
## Process Improvement and Problem Solving Methods

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<th>A3</th>
<th>DMAIC</th>
<th>TOOLS</th>
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<td><strong>PLAN</strong></td>
<td>Identify the problem or opportunity for improvement</td>
<td>Clarify problem</td>
<td>Define</td>
</tr>
<tr>
<td></td>
<td>Understand the current situation (background &amp; measure)</td>
<td>Break down the problem</td>
<td>Measure</td>
</tr>
<tr>
<td></td>
<td>Identify the goal and the gap</td>
<td>Set a target</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Analyse the situation (determine root cause)</td>
<td>Root cause analysis</td>
<td>Analyze</td>
</tr>
<tr>
<td></td>
<td>Identify potential solution(s), select solution to test. If we do ---- then ---- will happen</td>
<td>Develop counter measures</td>
<td></td>
</tr>
<tr>
<td><strong>DO</strong></td>
<td>Plan and implement a test of the proposed solution</td>
<td>Implement counter measures</td>
<td>Improve</td>
</tr>
<tr>
<td><strong>CHECK</strong></td>
<td>Study the results of the test</td>
<td>Evaluate results</td>
<td></td>
</tr>
<tr>
<td><strong>ACT</strong></td>
<td>Act on lessons learned, adjust as needed, Implement system-wide, Monitor</td>
<td>Standardize success, Monitor</td>
<td>Control</td>
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This video, a Case Study: BCI, gives an example of the Bureau of Criminal Investigation was able to do as a result of participating in a Lean Ohio Kaizen event. You will hear about improvements the BCI Crime Lab was able to make by their implementation of Lean tools.

Ask yourself what improvements you can make in your organization using Lean.
4 Voices

Organizations struggle with time, cost and resource management challenges. With multiple operational and strategic projects under evaluation by so many, it can be difficult to step back and isolate information and inputs from the various voices and contributors. Identifying which project and activity will meet business objectives requires a new and deeper level of visibility into the factors and insights of these key influencers. An important Lean tool is listening to the “4 Voices”. This lesson will tell you what the 4 voices are, and give you the opportunity to express and discuss each.

The 4 Voices of Lean are:

1. Voice of the Customer
2. Voice of the Business
3. Voice of the Process
4. Voice of the Employees

Voice of the Customer (VOC)

The Voice of the Customer is the term used to describe the stated and unstated needs or requirements of the customer.

- Who are our customers?
- What do they want?
- What are we doing that they don’t want?
- What do they think of our services?
- What would they like in addition?
- Are we fast enough?
- What are their reactions to staff

Voice of the Business (VOB)

The “voice of the business” is the term used to describe the stated and unstated needs or requirements of the organization.

- Mission Statement
- Stated Goals with Measurable Outcomes
- Burning Platforms
- Finances
- Performance Metrics
Voice of the Process (VOP)

The Voice of the Process describes what the process is telling

Things to Remember About the Voice of the Process (VOP)

- A process produces what a process produces including variation and defects.
- A process is not necessarily designed to give the customer what they want.
- Many times the voice of the process is not necessarily consistent enough to satisfy the voice of the customer.
- Customer needs and expectations drive innovation. Although they may seem difficult, innovations can build better processes.
- Automation is sometimes the right answer but not always.
- To change the outcome, one must change the process.

Voice of the Employee (VOE)

The Voice of the Employee describes the stated and unstated needs or requirements of the employees of the business.

- People who do the work know the work best
- Employees are closest to the customer
- Improvement ideas come from front line employees
- Respect for people is a fundamental principle of lean
- “Set them up for success”
- Change is challenging
- Empowering employees to make change promotes ownership of the work and creates a better place to work
Video: Seinfeld Car Reservation

This next short video should give you a laugh. It shows a situation that we can all probably relate to in one form or another. It shows a process that runs short of its promise to the consumer. The consumer must use an inferior product and is not satisfied. Think of what the bottleneck is and why it may have occurred.

Think of a time when you encountered a similar problem in your own business/workplace in which you could only partially deliver.

*Take notes. Discuss.*
Department of Prevention (DOP)

Simulation Rules

- DOP needs to process 16 applications every day (8 min)
- Each DOP employee is required to work until the end of the day
- Every position has written instructions which must be followed
- Each employee is responsible for getting their own materials
- Materials cannot be shared and applications and accompanying materials must be transported in the authorized folders
- Forms will be processed in batches of two
- Extra materials can be found in the supply area
- All DOP employees are responsible for moving their completed work to the next worker.
- Folders cannot be moved across the table. All work must travel around the outside of the table.
- Running is not permitted

Job Assignments:

- Mail Carrier (Mailroom)
- Mail opener (Workstation 1)
- Renewal processor (Workstation 2)
- Initial Processor (Workstation 3)
- Legal (Workstation 4)
- Approver (Workstation 5)
- Addressor (Workstation 6)
- Senior DOP Processor
- Efficiency Specialist (Floating station)
Video: SIPOC

This video entitled, SIPOC details an important Lean tool. A SIPOC is used to graphically outline all the relevant elements of a process and helps to understand the systems aspect of a process. SIPOC depicts how the given process serves the customer. It is a great tool to share with senior leadership.

SIPOC clearly defines the **Purpose** and **Scope** of a process. A SIPOC Diagram is used to identify all relevant elements of a process improvement project before work begins and helps to assure that everyone involved in the process improvement project is on the same page about the high-level steps of the process.

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<th>Input</th>
<th>Process</th>
<th>Output</th>
<th>Customers</th>
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Notes:

What are some tips the video gives about SIPOC?
**Suppliers**

Suppliers are individuals or organizations that provide inputs to the process. These can be internal (e.g. department, division or individuals) or external (e.g. vendors or individuals). It is also possible for a supplier to also be a customer. Suppliers are the source of materials, services or information provided to a process.

**Inputs**

Inputs are typically the people, machines, methods, materials and environment. In other words, the products, material, information and/or services that are required by the process to produce the outputs. Your job in the SIPOC is to identify, at a high level, and document the inputs. It can even include factors that influence the process. For example, in a paint shop, environmental factors such as humidity can affect the process.

**Process**

Process. The process is the step by step method that produces the output. In the SIPOC, the process is defined at a very high level, only 4-5 steps, starting with defining the beginning and end steps. Remember this...when developing a SIPOC, **ALWAYS BEGIN WITH THE PROCESS!**

**Outputs**

Outputs are “What the process produces for the customer”. Outputs are typically products, materials, information, services and/or decisions that are produced and provided to the customer (internal or external). Keep in mind that not all outputs are desirable.

**Customers**

In a SIPOC, you will identify and document who the Customers are. Typically, they are the people or entities who pay for the process output or receive the process output. They can also be those who are directly impacted by the process output.

**Notes:**

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**TIPS:**

- Start with the Process
- High Level: 5-7 process steps
- Start with the first and last steps of the process
- Fill in the 3-5 steps in between
- Use post it notes to document each step
- Stay at a high level!
- Reach Consensus
Activity: SIPOC DOP Application Process

(Remember the cookies!)

1. Remember, “Always begin with the Process”!
   - High Level: 5-7 process steps
   - Start with the first and last steps of the process
   - Fill in the 3-5 steps in between
   - Use post it notes to document each step
   - Reach Consensus
   - Don’t get into the details of the process. “Stay out of the weeds!”

2. Identify the Outputs – what the process produces for the customer
3. Identify the Customers
4. Identify the Inputs to the process
5. Identify the Suppliers of those Inputs

Facilitation Tips
- 1 person facilitates and posts on the wall
- Facilitator asks the group questions and listens carefully to responses
- Check your and the groups’ understanding
- Make sure the group comes to consensus
- Write big enough for everyone to see (use sharpies)
Project Charter

The Project Charter or Project Approval Form is a tool for clarifying why a team is being created, what the team will be working on, what the scope of the project is, what the expected outcomes are, and how they will be measured. As part of the Plan phase of PDCA, and Define phase of DMAIC, a project charter is meant to be a proverbial living, breathing document.

(Project Charter form on next page)

Project/Event Title

It may not be evident at project inception, but you are going to complete the project and over time this project will hopefully serve as a best practice for other people within your organization. It is important to name the project with a descriptive title that will allow others to quickly view and select your project based on the keywords and phrases.

Scope (Define Boundaries)

We cannot boil the ocean, so how do we make sure we are taking on a project that we can work from start to finish? Bound the project with a start and stop point: This will better assure that the project will remain within scope (the work we are focusing on). Points outside of scope should be tabled for another conversation or project.

Project Goals

What results do you anticipate from this project? E.g., lead time will be reduced 35%, defects be eliminated or at least reduced 75% percent, etc. Set challenging but realistic goals. Remember, people want to be part of something successful.

Project Boundaries (aka. Constraints)

Every project has to have boundaries. Know what you do and do not have the authority to change. For example, if you cannot change a policy because it takes an act of legislation, that is a boundary. Often boundaries will be stated as no new staff or money.
LeanOhio Project Charter

Project/Event Title
Project Facilitator
Agency/Organization
Project Mentor
Charter Last Updated Date:

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<th>SCOPE (DEFINE BOUNDARIES)</th>
<th>First step in the process:</th>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Metrics</th>
<th>Measures that will tell you if you are successful.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance Metrics</td>
</tr>
<tr>
<td></td>
<td>Current</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projected Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Lead:</td>
</tr>
<tr>
<td>Team Champion/Sponsor:</td>
</tr>
<tr>
<td>Process Owner:</td>
</tr>
<tr>
<td>Team Members: Subject</td>
</tr>
<tr>
<td>Matter Experts:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Champion/Sponsor and Process Owner Sign-Off: I am committed to supporting this project and implementing the tea improvements.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsor Signature:</td>
</tr>
<tr>
<td>Process Owner:</td>
</tr>
</tbody>
</table>

A copy of this template is available at: [http://lean.ohio.gov/Resources.aspx](http://lean.ohio.gov/Resources.aspx)
Project Charter

Project/Event Title
Application Processing

Project Facilitator
DOP

Agency/Organization

Project Champion
Instructor

Charter Last Updated Date

Project Background
Applications are taking too long to process. Customers are complaining because we are delaying their projects getting started. There is an on-going backlog. We can't ever get caught up. Staff are stressed out too.

Problem/Opportunity Statement
Customer requirements for timely response means processing 16 DOP Applications per work day. Currently we are averaging 2.75 days to process 16 applications which means we are falling more behind every day and customers are not happy. We need to improve this process to at least meet customer requirements.

SCOPE
(define boundaries)
First step in the process:
Application is received in the mail room

Last step in the process:
Customer receives notification of approval or denial of application.

Project Goals
Meet the customer requirement of processing 16 applications per work day so that customers receive timely notice. Reduce rework and errors

Project Constraints
No additional staff people or funds. No one loses their job, but job responsibilities may change.

Performance Metrics:
What measures will tell you if you are successful.

<table>
<thead>
<tr>
<th>Performance Metrics</th>
<th>Current</th>
<th>Goal</th>
<th>Final</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Applications processed per day</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Projected Benefits
Improved customer satisfaction, Improved staff satisfaction,

Project Team
Team Lead:
Team Champion/Sponsor:
Process Owner:
Team Members:
Subject Matter Experts:
Selecting Your Improvement Project

The following 7 steps will help you select your improvement project:

Step 1. List several ideas for process improvement projects:

1. 
2. 
3. 

Step 2. Review this checklist against your project ideas. Choose the one that is most likely to be a successful first improvement project.

### Criteria for Project Selection

<table>
<thead>
<tr>
<th>Criteria for Project Selection</th>
<th>Idea 1</th>
<th>Idea 2</th>
<th>Idea 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technical Issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it a process?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the scope manageable?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can it be reliably measured?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What data are available?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Strategic Issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it important?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it a “sacred cow”?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does it support the organization’s priorities?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer focus?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High probability of success in 3-6 months?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Empowerment Issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it within my/our control?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can I/we devote adequate time to it?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do I/we already know the solution?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the organization prepared to implement change?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do we have Leadership Support?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Step 3.** Get someone to help you review and think critically about these project ideas. Select and refine your idea as needed.

**Step 4.** Scope your project. Develop a SIPOC. Identify the first, last, and 3-5 major steps in the process. Identify the Output, the Customers, the Inputs and Suppliers.

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Input</th>
<th>Process</th>
<th>Output</th>
<th>Customer</th>
</tr>
</thead>
</table>

**Step 5.** List the job functions or categories of people you will want on your team.

**Step 6.** What measures will let you know that you are successful?

**Step 7.** Develop a goal statement for your project:

To improve ____________________________ process

to achieve ____________________________

for our customer __________________________

Notes:
DAY TWO
MAKING THE INVISIBLE VISIBLE

LEANOhio Boot Camp
DAY TWO

Focus

The focus today is ‘Making the Invisible Visible’. We began this process in Day 1 with SIPOC. We will continue with more Lean Tools.

What Day Two Will Cover:

• Gemba

• Process Mapping

• Identify Waste and Value Add Activities

• Interpreting a Process Map/ Root Cause Analysis

• Metrics and Data Collection

• Root Cause Analysis

• 5S

• Teams and Team Dynamics
Making the Invisible Visible:

Gemba

Gemba is a Japanese term for “where the work gets done”. So, one way to make the invisible visible is to go to the Gemba and see first-hand with one’s own eyes what is really happening versus what you think is happening. A Gemba walk is very different than “Management by walking around”. A Gemba Walk seeks to understand how things are actually working by observing the work and listening to employees.

Process Mapping

The Process Map is a tool used to display the current process and information from the customer request to the delivery of the product or service to the customer. The purpose is to understand the current process in order to identify opportunities for improvement by mapping all of the steps in the current process and identifying the job function that completes each step. It is a more detailed approach than a simple flowchart. It is BIG, BOLD and VISIBLE.

Video: Process Mapping
### Process Mapping Key

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="" alt="Function" /></td>
<td>Functional areas within a process. Who does the work.</td>
</tr>
<tr>
<td><img src="" alt="Beginning &amp; End Points" /></td>
<td>Beginning and end points of the process.</td>
</tr>
<tr>
<td><img src="" alt="Task" /></td>
<td>Any task/activity where work is performed. Usually written as a noun and a verb.</td>
</tr>
<tr>
<td><img src="" alt="Inspect &amp; Decision" /></td>
<td>Places where information is checked against established criteria (standards) &amp; decision made on what to do next.</td>
</tr>
<tr>
<td><img src="" alt="Delay" /></td>
<td>Any time information is waiting before the next process or decision (i.e. in-baskets, out-baskets, waiting to be batched).</td>
</tr>
<tr>
<td><img src="" alt="Single straight arrow" /></td>
<td><strong>Single straight arrow</strong> – used between tasks performed by same person or area, but no physical movement has occurred.</td>
</tr>
<tr>
<td><img src="" alt="Box arrow" /></td>
<td><strong>Box arrow</strong> – indicates physical movement of information / product from one person / function to another.</td>
</tr>
<tr>
<td><img src="" alt="Jagged arrow" /></td>
<td><strong>Jagged arrow</strong> – indicates electronic movement of information from one person / function to another.</td>
</tr>
</tbody>
</table>

### Process Mapping Tips
- The person who does the work should be the one to say what happens
- Map “as is” NOT as “should be”
- Use noun-verb or verb-noun format
- Decisions should have a yes/no answer
- One person facilitates and posts on the wall
- Facilitator asks questions and listens carefully to responses
- Use swim lanes
- Participants can be assigned to write the post-it notes
- Write big enough for everyone to see (use sharpies)
- Stay out of the weeds!
- Map the “Happy path” first, then come back to the complications
- There should be an arrow in and out of every task
- Make sure the group comes to consensus
- Review the path through the process frequently to assure understanding
- Add swim lines and arrows after map is complete
- Don’t jump to solutions
- Use Parking Lot to capture ideas
- Use 80/20 rule
• Hand-Off

• Loop Backs

• Parking Lot

• Swim Lanes
<table>
<thead>
<tr>
<th>Eight Wastes</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Transportation</td>
</tr>
<tr>
<td>I</td>
<td>Inventory</td>
</tr>
<tr>
<td>M</td>
<td>Movement</td>
</tr>
<tr>
<td>U</td>
<td>Underutilization</td>
</tr>
<tr>
<td>W</td>
<td>Waiting</td>
</tr>
<tr>
<td>O</td>
<td>Over-production</td>
</tr>
<tr>
<td>O</td>
<td>Over-processing</td>
</tr>
<tr>
<td>D</td>
<td>Defects</td>
</tr>
</tbody>
</table>

**Value Add (VA, NVA, NVAN)**

**Value Added Activities (VA)**-Transforms information into services and products the customer is willing to accept

- Must Meet Three Requirements:
  - Done right the first time
  - Transformational
  - Customer is willing to pay for

**Non-Value Added Activities (NVA)**

- Consumes resources
- Does not directly contribute to service
- Customer does not care

**Non-Value Added but Necessary (NVAN)**

- Customer does not care
- Required to perform the step by current statute or law
Root Cause Analysis

In analyzing process problems, you want to solve the root cause of the problem; otherwise it’s like putting a band-aid on the issue.

5 Whys
Why? ____________________________________________
   Why? ____________________________________________
   Why? ____________________________________________
   Why? ____________________________________________
   Why? ____________________________________________

Fishbone Diagram aka Ishikawa Diagram aka Cause and Effect Diagram
Making Informed Decisions
Metrics and Data Collection

4 Questions:

1. What data do you need to help you understand the problem or to establish a baseline?

2. What measures will tell you if your improvement is successful?

3. How can you clearly define the measurement of that data?

4. What will you do with that data?

Notes:
1. **Identify Measures**

What data do you need to help you understand the problem or to establish a baseline?

What measures will tell you if your improvement is successful?

Identify Primary measures and Secondary measures to avoid **sub-optimization**.

2. **Develop Operational Definitions**

An operational definition when applied to data collection, is a clear, concise detailed definition of a measure.

**Example 1:** Overtime

**Example 2:** Late

3. **Develop a Measurement Plan**

A Measurement Plan defines the process for collecting data - how much, how often, who collects etc.

4. **Collect Data**

Follow your data collection plan. It’s expensive to collect data. Do it right the first time.

5. **Display and Analyze Data**

Use charts and graphs to make it understandable

**Data Collection and Evaluation.**

Create an on-going cycle Periodic checks must be done
### Example Measurement Plan

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Operational Definition</th>
<th>Data Source and Location</th>
<th>Sample Size</th>
<th>Who will collect the Data?</th>
<th>When will data be collected?</th>
<th>How will data be collected?</th>
<th>Other data that should be collected at same time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to process an application</td>
<td>Email date, time</td>
<td>Applications for XYZ</td>
<td>Joe Smith, Tim Mann</td>
<td>During the first 2 weeks of the month</td>
<td>Randomly selected. Use simple spreadsheet</td>
<td>Day of week First time accurate submission</td>
<td></td>
</tr>
<tr>
<td>Application rejects</td>
<td>Any reason application is rejected</td>
<td>Applications for XYZ</td>
<td>Joe Smith, Tim Mann</td>
<td>During the first 2 weeks of the month</td>
<td>Random selection. Use simple check sheet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### How will data be used?
- Identification of Largest Contributors
- Identifying if Data is Normally Distributed
- Identifying Sigma Level and Variation
- Root Cause Analysis
- Correlation Analysis

#### How will the data be displayed?
- Pareto Chart
- Histogram
- Control Chart
- Scatter Diagrams

---

### Use this template to develop your own measurement plan

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Operational Definition</th>
<th>Data Source and Location</th>
<th>Sample Size</th>
<th>Who will collect the Data?</th>
<th>When will data be collected?</th>
<th>How will data be collected?</th>
<th>Other data that should be collected at same time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### How will data be used?  How will the data be displayed?
Data Collection Check Sheet

<table>
<thead>
<tr>
<th>Reason</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No date</td>
<td>I</td>
<td>II</td>
<td>II</td>
<td>III</td>
<td>III</td>
<td>38</td>
</tr>
<tr>
<td>No Signature</td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>45</td>
</tr>
<tr>
<td>Missing Documentation</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>67</td>
</tr>
<tr>
<td>No ID#</td>
<td>II</td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>III</td>
<td>39</td>
</tr>
<tr>
<td>Wrong Section Completed</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>II</td>
<td>III</td>
<td>17</td>
</tr>
<tr>
<td>Old Application Form</td>
<td>II</td>
<td>III</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>175</td>
</tr>
</tbody>
</table>

Display and Evaluate Data

Reasons for Application Rejects

- Missing Documentation
- No signature
- No ID #
- No date
- Wrong section
- Old form

Quarter 1
1. Sort:

2. Straighten:

3. Shine:

4. Standardize:

5. Sustain:
Improvement Teams

Definition
A team is a group of people working together towards a common ___________. Ideal size is ___ to ___ members.

Essential Team Structures
Clear and common G______________.
Clearly defined and agreed upon R______________ and R______________.
Clearly defined and agreed upon P_______________.
An Understanding of I______________ Dynamics.

Procedures
- Ground Rules
- Decision-making method
- Agendas
- Minutes
- Communication outside the team
- Problem solving methods

Roles and Responsibilities

<table>
<thead>
<tr>
<th>Team Members</th>
<th>Their Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manages the Project and the Team, is primary point of contact for the team, keeps records</td>
</tr>
<tr>
<td></td>
<td>People who do the work or supervise the work from all parts of the process</td>
</tr>
<tr>
<td></td>
<td>The team member who is responsible for seeing that the project gets implemented</td>
</tr>
<tr>
<td></td>
<td>A “part-time” member of the team called upon for specific expertise</td>
</tr>
<tr>
<td></td>
<td>Someone in Leadership who has the ultimate authority to implement changes, provide resources and remove barriers.</td>
</tr>
<tr>
<td></td>
<td>An outside neutral person who provides process and tools expertise</td>
</tr>
<tr>
<td></td>
<td>An outside person who is a full team member but knows nothing about the process being improved</td>
</tr>
<tr>
<td></td>
<td>The recipient of the product or service being improved</td>
</tr>
</tbody>
</table>
**Stages of Team Development**

![Stages Diagram](image)

**Procedures: Meeting Management**

**AGENDA**

<table>
<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
<th>OUTCOME</th>
<th>WHO/HOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 min</td>
<td>Check-in, review agenda</td>
<td>Ready for work!</td>
<td>Leader</td>
</tr>
<tr>
<td>10 min</td>
<td>Review pre-work</td>
<td>Informed</td>
<td>Jim-Bob</td>
</tr>
<tr>
<td>20 min</td>
<td>Discussion of XX</td>
<td>Decision</td>
<td>Sam/Force-field analysis</td>
</tr>
<tr>
<td>10 min</td>
<td>Brain storming on YY</td>
<td>Solution ideas</td>
<td>Jane</td>
</tr>
<tr>
<td>5 min</td>
<td>Next Steps</td>
<td>Assignments</td>
<td>Leader/Action register</td>
</tr>
<tr>
<td>5 min</td>
<td>Evaluate meeting</td>
<td>Improvements</td>
<td>Leader/Plus/Delta</td>
</tr>
</tbody>
</table>

**MINUTES**

<table>
<thead>
<tr>
<th>Meeting/ Team name:</th>
<th>Date:</th>
<th>Attendees:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOPIC</strong></td>
<td><strong>DISCUSSION</strong></td>
<td><strong>DECISIONS/ ACTION ITEMS</strong></td>
</tr>
</tbody>
</table>

2.14
Space for notes:
DAY THREE
ANALYZE AND IMPROVE
**Focus**

Today we will focus “Analyzing and Improving”. We began on Day 1 with SIPOC and identifying a real world problem. On Day 2 we focused on “Making the Invisible Visible” with Gemba, Process Mapping, and data. Today we’ll cover a number of improvement tools.

**What Day Three Will Cover:**

- Poka Yoke/ Pareto Diagram

- Batching VS Continuous Flow

- Push - Pull

- Standardized Work

- Kanban

- Brainstorming/ Affinity Diagram /Impact Control Matrix

- Clean Sheet Redesign
Poka Yoke is a Japanese term for “mistake proof”. Applying this term to Lean, this means preventing mistakes/errors. The step that causes the error is eliminated and replaced by a step that is error-proof. If you cannot make it impossible for the error to occur, devise ways to detect the error early and minimize its effects.

What are some examples of Poka Yoke?

One of the most common uses of Poka Yoke in Government is with forms. What else can benefit from Poka Yoke?
Poka Yoke is a Japanese term for ‘Mistake Proofing.’ Mistake Proofing can be done in many ways, but in government, forms and processes are the most common targets for Poka Yoke.

Examples:

How to Poka Yoke a Form

Collect baseline data on the form to see what is being completed correctly and accurately. The data you collect should tell:

- How many errors are made; what kinds of errors, how frequently
- How much time is spent reviewing the form and correcting errors

**Poka Yoke Forms**

Poka Yoke is a Japanese term for ‘Mistake Proofing.’ Mistake Proofing can be done in many ways, but in government, forms and processes are the most common targets for Poka Yoke.

Examples:

**How to Poka Yoke a Form**

Collect baseline data on the form to see what is being completed correctly and accurately. The data you collect should tell:

- How many errors are made; what kinds of errors, how frequently
- How much time is spent reviewing the form and correcting errors

**Slow Form for Renewal Requests**

<table>
<thead>
<tr>
<th>Date Submitted to DOP:</th>
<th>Agency Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Code:</td>
<td>Agency Reference #</td>
</tr>
<tr>
<td>OAKS ID:</td>
<td>Fund:</td>
</tr>
<tr>
<td>Account:</td>
<td>All:</td>
</tr>
<tr>
<td>Program:</td>
<td>Shipping Code:</td>
</tr>
<tr>
<td>Send to:</td>
<td></td>
</tr>
<tr>
<td>Approval Date Requested:</td>
<td></td>
</tr>
<tr>
<td>Phone Number:</td>
<td>Fax Number:</td>
</tr>
<tr>
<td>Name of Contact person:</td>
<td>Email:</td>
</tr>
</tbody>
</table>

**Additional Information**

<table>
<thead>
<tr>
<th>Date of Request</th>
<th>Improvement Initiative Title</th>
<th>Nature of Request</th>
<th>Number of times renewed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audit Plan</th>
<th>Budget Plan</th>
<th>Total Cost</th>
<th>Form Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Supervisor Signature**

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Director Signature**

<table>
<thead>
<tr>
<th>Title</th>
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Some things you can do to with the data:

- Concentration Diagram

[Image of Concentration Diagram]

- Create Pareto Diagram (Pictured below)

[Image of Pareto Diagram]
Batching

According to ASQ (American Society for Quality), Batching” is termed “Batch and Que”. This is defined as producing more than one piece and then moving the pieces to the next operation before they are needed. Processing of subsequent workstations must wait for current batch to be finished.

Continuous Flow

Continuous Flow is moving one work unit at a time through each step of the process. When implemented correctly, continuous flow processing:
- Reduces waste
- Saves money by reducing inventory and transportation costs
- Increases productivity – more units completed in less time
- Improves quality by making it easier to spot and correct errors
- Cuts down on overhead via increased stability and reduced lead times
- Adapts to customer needs more effectively than batch processing

Push-Pull

Push – Pull systems illustrate two forms of service delivery processes; a push system where we produce a bunch of something and “push” it out to customers versus a readily available/on-demand (pull) system. In a pull system the product or service is triggered by the customer’s needs and actions. A pull system decreases overhead, eliminates unnecessary inventory and improves production.

Rules of a Pull System:
- Supplies replace what customers have consumed, nothing more
- Customers only pulls what s/he consumes, nothing more
- Stocks are maintained at their minimum levels

Advantages of a Pull System:
- Reduces waste by eliminating overproduction
- Saves money by reducing inventory, managing storage and transportation costs
- Changes sales need by allowing the customer to purchase “on demand”
- Adapts to customer needs more effectively and improves responsivity to change requests
- Improves production and one (1) piece flow process
**Standard Work**

Standard Work refers to combining the elements of a job in the most effective sequence possible without waste. It defines the resources, steps, and time required to provide a service to the customer and is the baseline for continuous improvement. As the standard is improved, the new standard becomes the baseline for further improvements, and so on.

Standard Work is composed of:
- The steps required to provide the product or service to the customer
- The sequence or order in which elements need to be executed to produce the product
- The expected time to complete the steps based on the lowest repeatable time observed to complete elements in the defined sequence
- The quality criteria

Benefits of Standard Work:
- Reduces variability
- Ensure easier and consistent training
- Helps maintain and improve quality
- Enables consistent product and service delivery to customers
- Increases efficiency by using the minimum amount of people, space and materials
- Provides a baseline for improvement activities
- Reduces inspection, reviews and rework

*Standard work* is also referred to as *standardization*.

**Kanban**

A Japanese term for visual signal or card - one of the primary tools of a just-in-time system. It is an indicator of something ready to work on. It maintains an orderly and efficient flow of materials throughout the entire process. It is commonly used as an indicator for re-ordering of stock and is often a printed card that contains specific information such as part name, description and quantity.

Kanban is also used as a method of visually planning and managing daily work.
In this information packed video that is titled “Start with Why”, Simon Sinek reveals the discovery that extremely successful innovators think, act, and communicate completely differently than everyone else.

Pay close attention to the patterns and goals of successful people/organizations and why people buy from them in comparison to others that offer the same products.

Think about your own workplace/business.

• Q. Why do some people or businesses succeed and others do not?

• Q. What is it they have that others don’t? What makes them a standout?

• Q. Is your business/workplace rooted in a strong core belief of WHY they do what they do, and is it communicated to the employees and consumer?

When you talk about process improvement in your workplace, focus on the “why.” Why is change needed? Why now? What is the end goal? Try to do this in 25 words or less! An elevator speech.
Future State

The future state is the final draft of the process that will be implemented once the process improvement activity is completed by the team. How do we get there?

Brainstorming

Brainstorming is an interactive activity that gives the team an opportunity to generate and harvest ideas. The ideas can be defining the problem, coming up with solutions, or a combination of the two. The best possible results often occur by combining all resources available. Brainstorming helps Lean practitioners sort out ideas so they can plan ahead while gathering new data. This can accelerate the information-gathering session because each person in the session adds value to the end result. Another benefit of brainstorming is that no idea is unwanted, and all inputs are welcome. This can lead to people contributing in more valuable ways than they would have if their feedback and ideas are solicited by survey or focus group, etc.

Fundamentals of Brainstorming:

1. Everyone must be familiar with the problem.
2. Go for quantity of ideas. Wild ideas are welcome!
3. No judgement or criticism during brainstorming.
4. Stay focused!
5. A group of between 3 and 10 people is optimal. A smaller number does not give enough interaction between people so that ideas can feed off of one another. A larger group, on the other hand, can be too cumbersome to manage or engage people. People who are disengaged from the process can develop a sense of apathy toward the process. Apathy among any member of your team can deal a fatal blow to a brainstorming session.
Brainstorming techniques:

- Silent brainstorming

- Nominal Group Technique

- Carousel process

- Affinity Diagram

- Impact Control Matrix
Clean Sheet Redesign

*More Than One Right Answer*

Award winning photographer for National Geographic, DeWitt Jones discusses how he uses his research for the “best opportunity”, different camera lenses, and different vantage points to find more than one right answer.
Clean Sheet Redesign

Clean Sheet Redesign is a technique or step in the improvement process in which the improvement team is asked to develop a draft future process map incorporating the best improvement ideas that have been developed. To get the best ideas and *more than one right answer* in Kaizens and other large improvement projects, the team is split into smaller groups to each design a new process and then compare their maps for Common and Unique ideas before finalizing their new future state.

Process Redesign Principles

1. Design around value adding activities
2. Work should be performed where it makes the most sense
3. Provide a single point of contact for customers and suppliers
4. Ensure a continuous flow
5. Reduce waiting, moving and rework time
6. Reduce or eliminate batching
7. Build Quality in up front to reduce inspection and rework
8. Poka Yoke where ever possible
9. Reduce checks and reviews
10. Push decision making down to the lowest reasonable level

Notes:

LEANOhio Boot Camp
day three
DAY FOUR
Process Redesign and Implementation
Day 4 Will Cover

Making the Future State Happen
Implementation Plans and Tools
Measures of Success
Taking Lean Back to Your Workplace
Change Management
Showing What You Know: Play Jeopardy or Lean-O

You Will Be Able to:

• Develop Implementation Plans
• Utilize Visual Management
• Utilize Action Registers
• Identify Effective Change Management Strategies
• Measure Improvement
In this video, you will hear from Stark Area Regional Transit Authority. They will discuss how Kaizen Events and Lean Ohio’s Boot Camp have helped them improve their services.

What benefits do you see for your organization?
Making the Future State Happen

Designing the Future State

From Brainstorming and Clean Sheet Redesign, a new Future State has to be defined and mapped, and then implementation must be planned. Starting from the “ideal” future state, plans need to be made for what can happen now and what can happen later. Defining the best process before adding technology is essential.

Implementation Planning

Implementation Planning is critical to assuring the success of the improvement project. Typically the Process Owner is responsible to see that implementation happens. Sometimes a designated Project Manager is needed.

Implementation Pitfalls:

- Writing the plan and putting it on the shelf
- Unwillingness or inability to change
- Not having the right people involved
- Unrealistic goals or lack of resources
- Lack of leadership / sponsor support
- No accountability and follow through

Phased Implementation

30 Days

30 – 90 Days

90 – 180 Days
Action Register

An Action Register is a simple tool that helps with the momentum of the project and adds a level of accountability. Action registers can be completed on flipchart paper and displayed and updated at every meeting. Or they can be recorded electronically. What is essential is that they are visible to people to provide focus.

Action registers include:

- **What** task or objective needs to be accomplished
- **Who** will take the lead in seeing that the team accomplishes it
- **When** the task will begin and when it will be completed

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHO</th>
<th>WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
Timeline Tree

A Timeline tree collects all of the dates and high level tasks from the various action registries and combines it on one central area. The central axis is the schedule and the activities are added using post-it notes. Post-it notes are utilized for this tool because tasks will often have a timing aspect and need to be placed strategically.

Notes:
Gantt Chart

A Gantt chart provides a graphical illustration of a schedule that helps to plan, coordinate, and track specific tasks in a project. It was originally developed as a production control tool in 1917 by Henry L. Gantt.
Visual Management Dashboard

A Dashboard provides on-going information about how you are doing on the journey to provide quality, needed products, information, and services to your customers. It is a form of visual management that everyone can see and respond to. As you make your improvements you need to design a dashboard to monitor your progress.

**DASHBOARD: OHIO SHARED SERVICES**

Customer Service Center

Uses monitors for tracking:
1. Employee ‘status’ – available, not available
2. Current customers in queue
3. Longest current ‘hold’ time

Scorecard

A scorecard is a tool that is used to document improvements made during a project. It is a communication tool to illustrate the success of the project and can help in identifying the metrics that you will track over time to monitor the process and ensure the gains you have made.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Current Level</th>
<th>NEW</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Steps</td>
<td>322</td>
<td>51</td>
<td>84%</td>
</tr>
<tr>
<td>Decision Points</td>
<td>29</td>
<td>11</td>
<td>62%</td>
</tr>
<tr>
<td>Functions</td>
<td>21</td>
<td>10</td>
<td>52%</td>
</tr>
<tr>
<td>Touch Points</td>
<td>184</td>
<td>7</td>
<td>96%</td>
</tr>
<tr>
<td>Waste</td>
<td>69</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Process Lead Time</td>
<td>78 Days</td>
<td>34 Days</td>
<td>56%</td>
</tr>
</tbody>
</table>

Notes:
MEASURING YOUR SUCCESS: SCORECARD

Simpler: Reduction in Steps

CURRENT / FUTURE TASKS + CURRENT / FUTURE DECISIONS = CURRENT / FUTURE TOTAL STEPS

Simpler: Current/Future Steps

CURRENT STEPS - FUTURE STEPS = REDUCTION IN STEPS

REDUCTION IN STEPS / CURRENT STEPS = % REDUCTION IN STEPS

Simpler: Total Handoffs

# OF BOXED ARROWS = MOVEMENT FROM FUNCTION TO FUNCTION

# OF JAGGED ARROWS = ELECTRONIC MOVEMENT FROM FUNCTION TO FUNCTION

CURRENT / FUTURE TOTAL HANDOFFS

Faster: Lead Time Before minus Lead Time After = Lead Time Savings

Less Costly: Potential Savings

PAPER REDUCTION x =

OVERTIME HOURS =

STORAGE - # SQ. FT. OR BOXES =
IMPLEMENT FULLY & MONITOR; TELL YOUR STORY

Implementation of your improvement and monitoring the results to sustain the gains is critical. How will you monitor? What data will you track? What measures would tell you if something is slipping in your process? What measures would tell you if things are going well? What are your next steps?

Telling your story is both a celebration of hard work and a learning opportunity that needs to be shared widely so that the whole organization learns from your project. The A3 is the tool to use to share the story of the project, what was improved and what was learned.

A3

<table>
<thead>
<tr>
<th>Title: Your name:</th>
<th>Date Started: Current Date:</th>
<th>Team: Sponsor:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1: Background/Why change is needed</strong></td>
<td><strong>P4: Analyze</strong></td>
<td><strong>C7: Check Results</strong></td>
</tr>
<tr>
<td>Why are we working on this problem/opportunity? What is the business case? What is the pain point? What is the impact? Scope?</td>
<td>What is preventing achievement of the goal? What is the root cause or causes of the problem? Fishbone or 5 whys.</td>
<td>Collect data. Check the results of your improvement. Did you close the gap? Simpler, faster, better, less costly.</td>
</tr>
<tr>
<td><strong>P2: Current State</strong></td>
<td><strong>P5: Potential Solutions</strong></td>
<td><strong>C7: Other Results</strong></td>
</tr>
<tr>
<td>What is currently happening? Extent of the problem? Data. Statement of the problem. Graphically present a picture of the current state.</td>
<td>Brainstorm solutions. Analyze them. Select a solution to test.</td>
<td>What went well? What didn’t? If you didn’t achieve goal, then go back to test another solution. If goal is achieved, put into standard work.</td>
</tr>
<tr>
<td><strong>P3: Project Goals</strong></td>
<td><strong>D6: Action Plan &amp; Test</strong></td>
<td><strong>A8: Follow-up and Monitoring</strong></td>
</tr>
<tr>
<td>What specific outcome is required? What is the goal? What is the gap? Specific improvements in performance needed? Pictures/graphs.</td>
<td>Develop an action plan for running your test (or pilot) and implement it.</td>
<td>What is the plan for ensuring that solution benefits are maintained? How will you monitor?</td>
</tr>
</tbody>
</table>
Taking Lean Back to Your Workplace

PDCA
- Make sure it is a process
- Smaller, daily work projects
- In your work or your workgroup

Lean Routine
- Smaller process
- Can involve more than one section or work unit
- 2-4 swim lanes
- About 15 steps

Kaizen Event
- Bigger, more complex process
- Needs a skilled facilitator
- Usually 5 intensive days
- Senior leadership support; Commitment to implement when complete
We all know that change is a way of life. There is no avoiding it. It happens in our home and our work life. Sometimes it is expected, sometimes unexpected. Jason Clark presented this talk at TEDx Perth’s conference. He gives an anatomy of change and some ideas for managing it. As you implement your improvement, you will need strategies for managing the change in your organization.

Change management is:

The process, tools and techniques to manage the people side of change to achieve the required business results.

Organizational Change can be represented as three states of change.

<table>
<thead>
<tr>
<th>Current State</th>
<th>How things are done today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition State</td>
<td>How to move from current to future</td>
</tr>
<tr>
<td>Future State</td>
<td>How things will be done tomorrow</td>
</tr>
</tbody>
</table>

Change management drives project success by supporting individual transitions required by organizational projects and initiatives.

LEANOhi Ohio Boot Camp
Change Management:  
The Prosci ADKAR® Model

ADKAR describes the key building blocks for successful change.

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Awareness of the <strong>need</strong> for change</th>
</tr>
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<tbody>
<tr>
<td>Desire</td>
<td>Desire to <strong>participate and support</strong> the change</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Knowledge on <strong>how</strong> to change</td>
</tr>
<tr>
<td>Ability</td>
<td>Ability to implement required <strong>skills</strong> and <strong>behaviors</strong></td>
</tr>
<tr>
<td>Reinforcement</td>
<td><strong>Reinforcement</strong> to sustain the change</td>
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</table>

The PROSCI organizational change management process is a structured process for managing the people side of change.

Phase 1: Preparing for change – Define strategy and support

Phase 2: Managing change – Develop plans, take action

Phase 3: Reinforcing change – Feedback, corrective action, celebrate successes

Successful change requires both the technical and people sides of moving from the current state to the future state.

Video: Pep Talk from Kid President

This video is a “shout out” from Kid President to call you into action and make a difference in the world! Whatever your motivation is, whatever your goals are, whatever you wish to accomplish, this message of encouragement is delivered from a young child in an innocent, yet humorous fashion!

Congratulations!  
Go do great things!  
Be Lean Champions!
Simpler, Faster, Better, Less Costly
www.lean.ohio.gov