Three Ways of

1. The First Way: Systems Thinking

2. The Second Way: Amplify Feedback Loops

3. The Third Way: Culture of Continual Experimentation and Learning
### 24 Capabilities

<table>
<thead>
<tr>
<th>ARCHITECTURE</th>
<th>PRODUCT</th>
<th>I FAN</th>
<th>CULTURAL</th>
<th>CONTINUOUS DELIVERY</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Loosely coupled</td>
<td>✓ Customer feedback</td>
<td>✓ WIP Limits</td>
<td>✓ Westrum Organizational Culture</td>
<td>✓ Version Control</td>
</tr>
<tr>
<td>✓ Empowered Teams</td>
<td>✓ Value Stream</td>
<td>✓ Visualize work</td>
<td>✓ Supporting learning</td>
<td>✓ Deployment automation</td>
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<tr>
<td>✓ Small batches</td>
<td>✓ Small batches</td>
<td>✓ Change approval</td>
<td>✓ Collaboration</td>
<td>✓ Continuous Integration &amp; Delivery</td>
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<tr>
<td>✓ Experimentation</td>
<td>✓ Small batches</td>
<td>✓ Monitoring</td>
<td>✓ Job Satisfaction</td>
<td>✓ Trunk based development</td>
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<tr>
<td>✓ Proactive notification</td>
<td>✓ Small batches</td>
<td>✓ Proactive notification</td>
<td>✓ Transformation Leadership</td>
<td>✓ Test Automation</td>
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Source: Accelerate – Gene Kim, Jez Humble, and Nicole Forsgren

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**Notes:**

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Choose a problem to evaluate…… Some suggestions

- Process from code commit to release deployment is long and cumbersome and frequent releases are a business priority
- As a manager you need to hire good talent ASAP. How would you streamline the recruiting process
- Onboarding a new hire to be fully functional and deliver value to your project. How would you improve our onboarding process?

1. Use the flip chart to draw the current state steps and arrows indicating the action to complete that step
2. Draw two swim lanes value and waste at the bottom of the current state flow
3. Ask yourself the time taken to perform the step and note it in the value swim lane under that step
4. Ask yourself how much time would be taken for the directional arrow indicating the person or action that needs to perform the step

Value Stream Example

Of course there is a developer available.

Notes: ☰

Duration: 8 minutes
Amplify Feedback Loops

Game Time: Connections Game Circle

Duration: 10 minutes

1. Stand in a circle around your table
2. Randomly choose two numbers of two other players at your table
3. These two will be your two equidistant partners. Do not tell anyone who they are!
4. Move to a point which is equidistant from your two partners. Do this with no talking.
5. Continue moving until all players are equidistant from each other and stop moving.
6. At your table, have a quick discussion. Think of the people in the circle as a complex system:
   Q: How did the system behave when you tried to stay equidistant from your two secret partners?
   Q: After destabilizing, did the system eventually reach equilibrium?

Source: Carbon cycle feedback loops – Carleton.edu

Notes:
Culture of Continual Experimentation & Learning

Game Time: Paper Tower Challenge

Before you get started: Self organize the roles within your team

Sprint 1
Duration: 5 minutes

1. Plan how you will build the tower (1 mins)
2. Build the tower (3 mins)
3. Conduct Retrospective and decide what you will do differently in the next sprint (1 min)

Sprint 2
Duration: 4 minutes

1. Plan how you will build the tower (1 mins)
2. Build the tower (3 mins)

Source: Carbon cycle feedback loops – Carleton.edu

Notes: 

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Learning to See – Mike Rother
Machine that Changed the World – James P. Womack & Daniel T. Jones & Daniel Roos
Toyota Kata – Mike Rother
Fifth Discipline – Peter Senge
Accelerate – Nicole Forsgren, Jez Humble & Gene Kim
Kanban – David J Anderson
Implement Lean Software Development – Mary Poppendieck & Tom Poppendieck
The Phoenix Project – Gene Kim, Kevin Behr, and George Spadfford
The DevOps Handbook – Gene Kim, Jez Humble, Patrick Debois, & John Willis
Beyond the Phoenix Project – Gene Kim and John Willis
The Goal: A Process of Ongoing Improvement – Eliyahu M. Goldratt and Jeff Cox
Beyond the Goal - Eliyahu M. Goldratt
The New Economics - W.Edwards Deming
Out of Crisis – W.Edwards Deming
The Lean Startup – Eric Ries
Standing on the Shoulders of Giants – LA Times
Decoding the DNA of the Toyota Production System - Harvard Business Review
What is System Thinking?
At a Glance
Hygieia
http://capitalone.github.io/Hygieia/
Carbon Cycle Feedback Loops – Carleton.edu
https://serc.carleton.edu/eslabs/carbon/2c.html
The Deployment Production Line – Jez Humber, Chris Read & Dan North
https://dl.acm.org/citation.cfm?id=1155519