Continuous Improvement in Government: Applying Lean Principles

To Increase Revenues and Reduce Costs.

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Helping Organizations Become Globally Competitive
Harry W. Kenworthy

Harry is Principal & Manager of the Quality and Productivity Improvement Center (QPIC, LLC), a consulting organization he founded in 1984. He had the honor of working with Dr. W. Edwards Deming in 1983-85 on a series of seminars throughout the US. He has spoken at over 80 conferences on Quality and Productivity and has been published in Quality Progress and Purchasing magazines. Harry was a founder of the Connecticut Quality Council and chaired CBIA’s Manufacturing Council. He was also a Malcolm Baldrige National Quality Award Examiner from 1989-1991.

Harry W. Kenworthy was Vice President, Manufacturing for Rogers Corporation, a Connecticut based, NYSE listed, global manufacturer. He was also Rogers Executive Six Sigma Champion: leading the Six Sigma effort throughout Rogers; developing the Rogers Six Sigma (R6S) training program, which incorporates the best of traditional Six Sigma (DMAIC), Lean Techniques, and a series of Specialized Problem Solving Techniques. The Rogers Six Sigma Black Belts and Master Black Belts reported to him and many were trained by him. He provided R6S training in the US, Europe and Asia.

His consulting client base has included: AT&T, Florida Power and Light (during their quest for the Deming Prize), Ford, Pfizer, John Hancock Insurance, Ensign Bickford, Van Leer Containers (Holland), Honeywell, Pfizer, Domtar Packaging, the City of Hartford, and Nedlloyd Shipping, to name a few. He earned a BS in Materials Engineering from RPI and an MBA in Finance from Syracuse University. He’s listed in Who’s Who in America.

Helping Organizations Become Globally Competitive
### Threat vs. Opportunity Matrix

#### Threat
*If we are not successful*

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lost $ Revenues</td>
<td></td>
</tr>
<tr>
<td>• Lack of Public Confidence in the City</td>
<td></td>
</tr>
<tr>
<td>• Continued inefficiencies – internal and to taxpayers</td>
<td></td>
</tr>
<tr>
<td>• Current Economic Crisis deepens</td>
<td></td>
</tr>
</tbody>
</table>

#### Opportunity
*If we are successful*

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To save $$ money</td>
<td></td>
</tr>
<tr>
<td>• Improved Processes</td>
<td></td>
</tr>
<tr>
<td>• Better morale and use of employee time</td>
<td></td>
</tr>
<tr>
<td>• Working on the right stuff</td>
<td></td>
</tr>
<tr>
<td>• Improved Cust. Service</td>
<td></td>
</tr>
<tr>
<td>• Fewer Audit Issues</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Financial crisis due to legacy costs</td>
<td></td>
</tr>
<tr>
<td>• Tax base erosion</td>
<td></td>
</tr>
<tr>
<td>• Credit rating downgraded</td>
<td></td>
</tr>
<tr>
<td>• Layoffs and further service erosion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stronger financial position and future – solidify tax base</td>
<td></td>
</tr>
<tr>
<td>• <strong>Attrition to reduce costs via reducing wasteful activities</strong></td>
<td></td>
</tr>
<tr>
<td>• _____ a more desirable place to live</td>
<td></td>
</tr>
<tr>
<td>• Model of Gov’t excellence</td>
<td></td>
</tr>
</tbody>
</table>
Continuous Improvement (CI) Draft
Elevator Speech

The City of _______ is facing serious fiscal challenges for the future. In order to help address these issues, we are initiating a Continuous Improvement (CI) Process throughout the City to increase service to all of our constituents, reduce wasteful activities, improve our financial stability and enhance _______ as a place to live.

We will be working with all departments to identify key department processes to be able to select CI projects to generate positive results. We need your help to recommend CI opportunities; participate on project teams, as needed; and provide your support and cooperation. CI will be successful based on the support of all City employees – we can’t do it without you.

CI will help to provide better job satisfaction, work on the right things that truly matter to our constituents, and increase pride in being a key member of the _______ community.

CI will help us all enhance _______ for it’s employees, residents, and future.

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Department Continuous Improvement (CI) Contract (Draft)

Each department will have a very active CI effort consisting of the following:

1. The Director is accountable for the dept. CI effort and will Champion a minimum of 1 CI project/year.
2. A key department person who reports to the director will identify the key dept. processes and prioritize CI project opportunities.
3. CI metrics will be tied into Leadership’s key metrics and be reviewed at Citystat meetings.
4. CI is a “top 5” on-going initiative and will be reflected in department performance assessments.
5. CI updates will be communicated a minimum of once/month to all employees.

Signed____________________
Department CI “to do list”

1. Director to select key CI “point person” who reports to dept. Director – must be “one of the best” people.
2. Determine what are the dept. key processes, how they are measured, and how they tie to Citystat.
3. Based on #2, how are those processes doing?
4. Use a prioritization matrix to rank dept. CI project opportunities from #3.
5. Identify great CI project leader candidates.
6. Work with CI office in setting up projects & project team(s).
7. CI must be seen a a very positive career experience.
# Process Improvement

## Project Selection Matrix

<table>
<thead>
<tr>
<th>Requested Projects</th>
<th>Strategic Importance /Impact on Dept Objectives</th>
<th>Financial Impact</th>
<th>Source of Customer Dissatisfaction</th>
<th>Visibility of Positive Results</th>
<th>Time to Implement</th>
<th>Resources Needed</th>
<th>Probability of Creating New Problems</th>
<th>Sum Across of the Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Major</td>
<td>5 Major</td>
<td>5 Major</td>
<td>5 Very Clear</td>
<td>5 Almost Immed</td>
<td>5 Almost Nil</td>
<td>5 Very Low</td>
<td>5 Very Low</td>
<td></td>
</tr>
<tr>
<td>4 Significant</td>
<td>4 Significant</td>
<td>4 Significant</td>
<td>4 Clear</td>
<td>4 &lt; One Month</td>
<td>4 Few</td>
<td>4 Low Risk</td>
<td>4 Low Risk</td>
<td></td>
</tr>
<tr>
<td>3 High</td>
<td>3 High</td>
<td>3 High</td>
<td>3 Some Indic</td>
<td>3 1-2 Months</td>
<td>3 Modest</td>
<td>3 Some Poss.</td>
<td>3 Some Poss.</td>
<td></td>
</tr>
<tr>
<td>2 Moderate</td>
<td>2 Moderate</td>
<td>2 Moderate</td>
<td>2 Few Indic</td>
<td>2 3-4 Months</td>
<td>2 Moderate</td>
<td>2 Mod. Poss.</td>
<td>2 Mod. Poss.</td>
<td></td>
</tr>
<tr>
<td>1 Low</td>
<td>1 Low</td>
<td>1 Low</td>
<td>1 Hard to See</td>
<td>1 5-6 Months</td>
<td>1 Considerable</td>
<td>1 Probable</td>
<td>1 Probable</td>
<td></td>
</tr>
<tr>
<td>0 Very Little</td>
<td>0 Very little</td>
<td>0 Very little</td>
<td>0 Intangible</td>
<td>0 &gt; 6 Months</td>
<td>0 Major</td>
<td>0 Almost Certain</td>
<td>0 Almost Certain</td>
<td></td>
</tr>
</tbody>
</table>

*Helping Organizations Become Globally Competitive*
## Process Improvement Priority List

<table>
<thead>
<tr>
<th>DEPT</th>
<th>PROBLEM STATEMENT</th>
<th>ALIGNED TO WHAT DEPARTMENT OBJECTIVE and CITY GOAL?</th>
<th>PROJECT BENEFITS</th>
<th>FINANCIAL IMPACT</th>
<th>PROJECT TEAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance/AP</td>
<td>Accounts payable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHIS</td>
<td>Help Desk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HR</td>
<td>Police Recruitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance/Tax Collector</td>
<td>Parking Tickets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mayor's Office</td>
<td>Special Events</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lean Concepts

• Build on our skills to get faster results – more output from the same people
• Focus on continuously improving our processes – Internal & External
• Increase speed by eliminating waste and reducing errors
• Is constraint free
• We are targeting the frequency (more) of doing things, not the person
The Classic Wastes

1. Handling/Unnecessary Motion
2. Inferior Methods
3. Inspecting
4. Transporting/Moving
5. Counting
6. Delaying/Waiting
7. Storing
8. All Rework Loops
9. Multiple Signatures
10. Waste of underutilized people
Kaizen

Kai
To break apart
To modify
To change

Zen
Think
Make good
Make better

Kaizen
» Change for better
» Improvement
» Continuous Improvement

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Pre-event Kaizen Preparation

• Develop/Use Value Stream Maps (Current and Future State) to prioritize best Kaizen opportunities. Also all data that will be helpful in assessing the current situation.
• Select the dedicated Kaizen team – cross functional and multi levels (includes employees in the actual Kaizen affected area).
• Ensure adequate support resources are committed to support the event beforehand.
• Ensure good communications beforehand and during the Kaizen event.
• Prepare the area and schedule the event.
The sub-team documented the complete Tax Payment process. All steps were looked at to determine Value Added (VA) & Non-Value Added (NVA) activities.

The team identified many NVA activities. Some reasons:

- Unnecessary operations and steps get added to a process
- Training as a method to transmit knowledge is never perfect
- Conversational knowledge dominates over written procedures, etc.

Helping Organizations Become Globally Competitive
A Spaghetti Map is a “bird’s eye view” of the Process.

In this case, the team was “the check” from the time it was received in City Hall until the time it was deposited into the Bank.

The Spaghetti Map is a valuable tool to better understand actual work layout and flow. The ideal flow would have all of the process steps located right next to each other to reduce time.
A Spaghetti Map is a “bird’s eye view” of the Process.

In this case, the team was “The PJ Slip” from the time it left the PJ Office until the time it was entered into payroll.

The Spaghetti Map is a valuable tool to better understand actual work layout and flow. The ideal flow would have all of the process steps located right next to each other to reduce time.
Principles for Kaizen Improvements

1. Think about how the new ideas will work, not how they won’t work.
2. Don’t seek perfection – 80% right, 100% implemented.
3. Fix mistakes the moment they are found.
4. Make improvements with minimal investment.
5. Continue to ask “Why?”.
6. Don’t except excuses.
7. “Just do it” – make it happen.
Why is Money Saved?

• Target best $$ opportunities
• Less transaction times = more transactions
• Reduced cycle times = faster throughput, info, decision making, etc.
• Less errors = less rework and checking, accurate information
• Easier processes = greater employee satisfaction
Discussion Areas

• Fire Dept – consolidation possible?
• Police Dept – history from prior Chiefs – value added?
• $50 check with 5 signatures – needed?
• Cost of people with benefits as a % of budget?
• Purchasing Leverage – what’s possible?
• Office and desk proximity to entire process?
The Elements of ACE

**Leading Change**

Creating A Shared Need:
The reason to change, whether driven by threat or opportunity, is instilled within the organization and widely shared through data, demonstration or demand. The need for change must exceed its resistance.

Shaping A Vision:
The desired outcome of change is clear, legitimate, widely understood and shared. The 90 second speech.

Mobilizing Commitment:
There is a strong commitment from key constituents to invest in the change, make it work, and demand and receive management attention.

Making Change Last:
Once change is started, it endures, flourishes and learning's are transferred throughout the organization. We must be able to sustain this long term.

Monitoring Progress:
Progress is real; benchmarks set and realized; indicators established to guarantee accountability. Process Owners, Performance Reviews, etc.

**Changing Systems and Structures:**
Making sure that the management practices are used to complement and reinforce change

*Leading Change*, John Kotter, Harvard

*Helping Organizations Become Globally Competitive*
# Stakeholder Analysis

## ACE – Achieving Change Effectiveness

### Stakeholder Analysis Table

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Strongly Against -2</th>
<th>Moderately Against -1</th>
<th>Neutral 0</th>
<th>Moderately Supportive +1</th>
<th>Strongly Supportive +2</th>
<th>Type of Resistance</th>
<th>Plan to Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>Skepticism; preconceived solutions</td>
<td>Communication throughout process; educate/train</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>XO</td>
<td>Skepticism; change</td>
<td>Involve in solution; educate/train; clarify roles &amp; responsibilities - accountabilities; give credit for the change</td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>Skepticism; change</td>
<td>Involve in solution; educate/train; clarify roles &amp; responsibilities - accountabilities; give credit for the change</td>
</tr>
<tr>
<td>4</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>Skepticism; change</td>
<td>Involve in solution; educate/train; clarify roles &amp; responsibilities - accountabilities; give credit for the change</td>
</tr>
<tr>
<td>5</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>Skepticism; change</td>
<td>Involve in solution; give credit for the change</td>
</tr>
<tr>
<td>6</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>Potential resource impact</td>
<td>Involve in any technology solutions</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>XO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>XO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key:**
- **X** = Current Support Level
- **O** = Level Stakeholder Needs to be
“If you always do what you’ve always done, you’ll always get what you’ve always got…”
“If we already know the answer, we never ask the question...”