Using Lean Thinking and Other Improvement Techniques to Deliver Business Results

Part 1 – So…. Where does One Start?
“Begin with the end in mind!”

Stephen Covey
Drop Math from School Curriculum….
No Longer Necessary
There is Still VALUE in Understanding HOW to get the answer.....

• Know if your change really is correct
• Know to apply right formula to the right problem
Observations of Learning Institutions

- Staff is incredibly busy....all the time
- Very difficult to bring people together for lengthy training or improvement activity
- Student and teaching schedules make us different
- More to do than we have time to accomplish
- Environment is changing .... At an increasing pace
- Issues everywhere: Grants, Funding Mechanisms, competition for students, changing regulations, student needs, course delivery methods, new competitors, challenges with fixed costs and variable costs,..... AND THE LIST GOES ON!!!!

- **Welcome to the 21st Century!**
Work = Force X Distance

Organizations applying lots of well meaning force........
But not moving any distance
My Observations...

- We often spend too much time on the urgent rather than the strategic
- We forget our **mission** in the business of the day
- Improvement areas are often chosen by today’s panic vs. long term future
- Little focus/linkage to organizational priorities (strategic)
- Focus on “Dollar chasing” in the private sector

Don’t have time to do it right the first time, but always time to fight the fire.
When thinking about LEAN and other improvement techniques........

What are you shooting for?
Have you thought about what you want to accomplish?
America Suffers from.....

Magic Bullet Syndrome
“So How Do We Accomplish More?”

How can we overcome the inertia of moving a fixed object using LEAN

With the resources at our disposal.
– Requires **Focus** on important few
Many Methods – One Common Thread for Success

- Align the vectors of the organization
- Focus on what will help us achieve our mission
- Cross-functional linkage along the value chain
- Meaningful performance measures and targets
- Reviews to assure success

“People follow their leaders”
Key Principle

Improve those things that will most help you achieve your mission.

How do I know whether to look for innovation or continuous improvement?

- Strategic focus – “Management by choice”
- Some management actions – “Stuff happens”
- Long-term and short-term perspective
- “Balanced” approach – not just financial
- Review your key measures
Leadership Focus –
Can The Organization answer:

What do we have to do to be successful?

How will we know we are doing that?
Vision without Execution is Hallucination

Thomas Edison

LEAN and other quality improvement tools can be used to improve Execution....
But must be strategically focused for maximum results

Mark Story
Break Out: So.... Where does One Start?

• Do you have a platform for change? Describe it.
  • Crisis?
  • Opportunity?
• Describe ways you currently (or ways you could consider to) focus the organization on things that are critical to organization’s strategy?
• How do you or could you measure the magnitude or impacts of problem(s) your organization is facing?
• Will your organization commit resources to make the change?
• Can you build a plan that meets the needs of your organization?
• Describe your most important plan considerations?
• Where do you think LEAN Concepts fit into the plan?
Using Lean Thinking and Other Improvement Techniques to Deliver Business Results

Part 2 – So.... What is LEAN and HOW can I use it to deliver business results?
What is LEAN?

Lean Thinking is a set of tools for \textit{Breakthrough} improvements in the elimination of waste.

“Lean is not about imitating the tools used by Toyota in a particular manufacturing process. Lean is about developing principles \textit{that are right for your organization and diligently practicing them} to achieve high performance that continues to add value to customer and society.”

Jeffrey K. Liker – \textit{The Toyota Way}

Our goal today is to show you some of the Lean principles and have you be able to adapt them to your organization.
<table>
<thead>
<tr>
<th>Manufacturing</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery – very visible</td>
<td>Little machinery – people and computers/computer equipment mostly</td>
</tr>
<tr>
<td>Tools – visible &amp; high knowledge</td>
<td>Computer located at central area</td>
</tr>
<tr>
<td>Small work area – easy to see linkages</td>
<td>Often crosses functions and geography</td>
</tr>
<tr>
<td>High cost of raw material</td>
<td>Raw material often computer file or document – sometimes none or could be the customer</td>
</tr>
<tr>
<td>Ability to produce product without orders</td>
<td>Usually triggered by a customer request</td>
</tr>
<tr>
<td>Inventory issues – cost, breakage, spoilage, loss, shrinkage</td>
<td>Inventory often a computer file – impact is on service cycle not so much cost</td>
</tr>
<tr>
<td>High cost of storage</td>
<td>Lower cost to store information electronically</td>
</tr>
<tr>
<td>High cost of transport</td>
<td>Transport costs often near zero</td>
</tr>
<tr>
<td>Customer not “There”</td>
<td>Customer often present physically or on the phone</td>
</tr>
<tr>
<td>Products</td>
<td>Information/service</td>
</tr>
</tbody>
</table>
RPI is an employee driven improvement process adapted from lean manufacturing techniques to meet the special needs of the service sector. RPI is designed to utilize employee expertise to quickly reduce or eliminate waste in work processes, and enhance the culture of the organization.
Tools and Principles
Tools and Principles frequently used to remove waste

- **Value-Stream Mapping -- Exercise**
  - Process Mapping
  - Target Cost
    - **Continuous one-piece flow -- cell manufacturing**
      - Worker De-Specialization (goes with one-piece flow)
    - **5 Whys**
      - Demand Pull Processing -- “Pull”
  - **8 Sources of Waste**
    - Quick Process Changeover
      - **Takt Time**
        - Visual Controls
      - **Mistake Proofing**

We’ll focus on just a few today
The Five Why’s
5 Why’s – Can Lead To Real Solutions

The Problem

“ The Vehicle Will Not Start”

Why? #1 - The battery is dead.
Why? #2 - The alternator is not functioning.
  Why? #3 - The alternator belt has broken.
Why? #4 - The alternator belt was well beyond its useful service life and not replaced.
Why? #5 - The vehicle was not maintained according to the recommended service schedule. (Finally… a root cause)

One of the most important aspects in the 5 Why approach - the real root cause should point toward a process that is not working well or does not exist.

Classical answers are: not enough time, not enough investments, or not enough manpower

Therefore, instead of asking the question why?, ask why did the process fail?
PICK Chart – Many Ideas…. How to Pick the Most Useful Ones

Created by Motorola to aid in project selection process

4 Criteria for Selection
- Possible
- Implement
- Challenge
- Kill

Scale of Payoff

Ease of Implementation

Low Payoff
Easy to do
“Possible”

High Payoff
Easy To Do
“Implement”

Low Payoff
Difficult to Do
“Kill”

High Payoff
Hard to Do
“Challenge”
Lean Enterprise – “lean”

Process Improvement Methodology

Removal of waste from processes, reduced cycle time & cost reductions

Eight Sources of Waste

- Over-Processing
- Transport
- Inventory
- Waiting (Queue time)
- Defects
- Over-producing
- Motion

Focus on Projects

Waste
Lean Enterprise – “lean”

- **Supports the Improvement Cycle**
- Can be used to identify organizational priorities via Value Stream Analysis & deployment through projects – Lean and Six-Sigma projects
- **Different tools for Analysis, Measurement than Six-Sigma**
- Requires strong involvement from line employees to redesign work processes and workplaces
- **Strong focus on business results**
Lean Enterprise – “lean”

Focus on removal of waste from processes, reduced cycle time & cost reductions

- Workplace organization to minimize transporting of goods/people within the process
- Standardization and stabilization of the process
- Quick changeover of lines/tools/products
- Total Productive Maintenance
- Mistake proofing processes
- One-piece work flow to eliminate inventories and match production to customer demand
Target Cost
What would our process cost if we removed all the waste?

How?

• Value Stream and/or Process Map the Process
• Identify all waste
• Calculate cost if all the waste COULD be removed

Why?

• Provides vision of what could be accomplished
• Can use to prioritize and allocate resources
• Provides motivation and a vision of what “could be” to employees
Defects

Anything that does not meet customer requirements and requires re-work or creates waste
In defect reduction we’re trying to identify and remove items that do not meet specifications for quality.

• This can include:
• Incorrect processing of documents
• Correct processing that did not meet time specifications
• Any item that generates a customer complaint
<table>
<thead>
<tr>
<th>Examples</th>
<th>Causes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producing defective parts or product</td>
<td>Weak process controls in place – course registration process</td>
<td>Rework</td>
</tr>
<tr>
<td></td>
<td>Poor process design – no poke yoke</td>
<td>Interruption of the work flow causing – rework and unnecessary movement</td>
</tr>
<tr>
<td></td>
<td>Material or tool deficiency</td>
<td>Production of scrap</td>
</tr>
<tr>
<td></td>
<td>Inadequate work instructions</td>
<td>Customer may receive defective product</td>
</tr>
<tr>
<td></td>
<td>Workers not following designed work methods</td>
<td>May increase need for inspections – Lots</td>
</tr>
<tr>
<td></td>
<td>Customer needs not clearly understood</td>
<td>Handling time and transport cost for defects</td>
</tr>
</tbody>
</table>
Poke Yoke – Mistake Proofing
Overproduction

Examples of Overproduction:
• Making more than required by next process
• Making things earlier than required by next process
• Producing products faster than required by next process

Some of the causes:
• Just-in-case logic
• Misuse of automation
• Long process set-ups
• Unleveled scheduling
• Unbalanced workload
• Over-engineering
• Redundant inspections
# Overproduction

<table>
<thead>
<tr>
<th>Examples</th>
<th>Causes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producing items for which there is no customer order</td>
<td>“Just in Case” logic</td>
<td>Overstaffing or producing things that may never be used</td>
</tr>
<tr>
<td>Making more than required by the next process</td>
<td>Large batch production - Maximize machine utilization</td>
<td>Increased storage space and expense</td>
</tr>
<tr>
<td>Making earlier than required by next process</td>
<td>Maximize people utilization</td>
<td>Increased raw material cost for inventory</td>
</tr>
<tr>
<td>Making faster (exceed Takt time) than required by next process</td>
<td>Departmentalized production</td>
<td>Carrying cost of inventory</td>
</tr>
<tr>
<td></td>
<td>Long setup times – course development</td>
<td>Product or offering delayed Lost/broken product</td>
</tr>
<tr>
<td></td>
<td>Bad scheduling</td>
<td>Outdated product – course offerings don’t fit graduation schedules</td>
</tr>
<tr>
<td></td>
<td>Unbalanced workload/process</td>
<td>Too many students for class offerings</td>
</tr>
</tbody>
</table>
Waiting

Examples include:
• Idle time when waiting for work or for others to complete work
• Waiting waste is often caused by bottlenecks
• Excessive cycle time variability is a good indicator that wait time waste exists
• Unbalanced workload
• Misuses of automation—such as in automating a bad process
• Unplanned maintenance creating wait time

8 Wastes of Lean

- Defects
- Overproduction
- Waiting
- Transportation
- Inventory
- Motion
- Extra Processing
- Non-Utilized Talents
<table>
<thead>
<tr>
<th>Examples</th>
<th>Causes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers watching an automated process</td>
<td>Poor planning and layout – not planned by Takt time</td>
<td>Excess inventory</td>
</tr>
<tr>
<td>Waiting for tools, supplies, parts, information, etc.</td>
<td>Departmentalized production verses cell production</td>
<td>Stockouts, Delays in next process steps</td>
</tr>
<tr>
<td>Equipment downtime</td>
<td>Large lots</td>
<td>Wasted human resources – overtime</td>
</tr>
<tr>
<td>Waiting for inspections/approvals</td>
<td>Poor maintenance</td>
<td>Delayed shipping to customer</td>
</tr>
<tr>
<td>Waiting for the previous process step to finish</td>
<td>Slow setup/changeover times</td>
<td>Tendency to build just in case inventory</td>
</tr>
<tr>
<td>Quality problem upstream</td>
<td>Unleveled scheduling</td>
<td></td>
</tr>
</tbody>
</table>
Some causes of transport waste are:

• Poor facility layout
• Poor understanding of process flow for production or service delivery
• Large batch sizes, long lead times and large storage areas
# Unnecessary or Excessive Transport

<table>
<thead>
<tr>
<th>Examples</th>
<th>Causes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry work in progress (WIP) from one point/department to another</td>
<td>Ineffective layout of work area or departmentalizing of work</td>
<td>Added wait time waiting for transport to be completed</td>
</tr>
<tr>
<td>Inefficient means of transport such as use of forklifts</td>
<td>Lack of creativity in transportation methods</td>
<td>Excessive cost of transportation vehicles and manpower</td>
</tr>
<tr>
<td>Transporting WIP, parts or equipment into and out of storage</td>
<td>Overproduction requiring WIP to be inventoried</td>
<td>Increased worker safety issues related to transportation methods</td>
</tr>
<tr>
<td></td>
<td>Lack of supplier coordination creating excessive raw materials</td>
<td>Added noise and confusion</td>
</tr>
<tr>
<td></td>
<td>Large batch sizes</td>
<td>Wait time when transportation is not available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased cycle time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lost/damaged materials</td>
</tr>
</tbody>
</table>
Excess Inventory

Examples may be:
- Contingency against unexpected problems
- Unreliable shipment by suppliers
- Unleveled scheduling
- Poor market forecast
- Unbalanced workloads
## Excess Inventory

<table>
<thead>
<tr>
<th>Examples</th>
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<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess raw material</td>
<td>Large batch or departmentalized production</td>
<td>Large amounts of cash sitting on the shop floor in the form of inventory</td>
</tr>
<tr>
<td>Work in Progress (WIP)</td>
<td>Long setup/changeover times</td>
<td>Obsolescence of product</td>
</tr>
<tr>
<td>Finished goods not ordered by customer</td>
<td>Just in case mentality – “slop”</td>
<td>Transportation and storage costs</td>
</tr>
<tr>
<td>Finished good produced before customer ship date</td>
<td>Mechanical breakdowns</td>
<td>Floor space utilized by WIP, cannot be used for production</td>
</tr>
<tr>
<td>Damaged goods waiting for repair</td>
<td>Specialization of workers</td>
<td>Lost/damage product</td>
</tr>
<tr>
<td></td>
<td>No communications throughout the value stream regarding variation</td>
<td>Rework to adapt product to new specs/requirements</td>
</tr>
<tr>
<td></td>
<td>Uneven work flow – not planned per Takt time</td>
<td>Degradation of product</td>
</tr>
</tbody>
</table>
Wasted Motion

Any movement of people or machines that does not add value to the product or service

- Causes of wasted motion
  - Poor effectiveness of people/machine interface
  - Inconsistent work methods
  - Unfavorable facility or work area/cell layout
  - Poor workplace organization
  - Extra ‘busy’ movements while waiting

- Defects
- Overproduction
- Waiting
- Transportation
- Inventory
- Motion
- Extra Processing
- Non-Utilized Talents
### Unnecessary or Wasted Motion

<table>
<thead>
<tr>
<th>Examples</th>
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<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-standardized work</td>
<td>No attention to detail by work designers</td>
<td>Excessive cycle time required</td>
</tr>
<tr>
<td>People not following standard process</td>
<td>Management not teaching or requiring proper work methods</td>
<td>Excessive use of human labor</td>
</tr>
<tr>
<td>Poor layout of work area</td>
<td>Employees don’t see the need for planned detailed movements</td>
<td>Defective product produced</td>
</tr>
<tr>
<td>Poor housekeeping/ layout of tools/materials</td>
<td>Poor layout of work area, layout designed for materials not for workers</td>
<td>Worker fatigue</td>
</tr>
<tr>
<td>Breakdown in one piece flow requiring stacking</td>
<td>Worker specialization requires handoffs</td>
<td>Safety issues</td>
</tr>
<tr>
<td>Walking to get/deliver materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection and repair of product</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Process Flow Mapping Exercise
List Sources of Waste Found In Process Exercise Below
(Be prepared to share them with the group)

- Defects
- Overproduction
- Waiting
- Transportation
- Inventory
- Motion
- Extra Processing
- Non-Utilized Talents
Potential Causes of Processing Waste:
• Product changes without process changes
• Just-in-case logic
• True customer requirements undefined
• Lack of clear communications
• Redundant approvals
• Extra copies or excessive information requests
## Incorrect or Excessive Processing

<table>
<thead>
<tr>
<th>Examples</th>
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<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking unneeded steps to process parts</td>
<td>Poor process design or not evolving design with time</td>
<td>Excessive use of labor</td>
</tr>
<tr>
<td>Correction of defects</td>
<td>Poor tool design</td>
<td>Production of scrap requiring make up work or rework</td>
</tr>
<tr>
<td>Correction of defects</td>
<td>Lack of Poke Yoke devices</td>
<td></td>
</tr>
<tr>
<td>Producing high quality (closer tolerances)</td>
<td>Poor product design</td>
<td>Higher variation can lead to backlogs and wait time downstream</td>
</tr>
<tr>
<td>Producing high quality (closer tolerances)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Producing high quality (closer tolerances)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Producing high quality (closer tolerances)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excessive movement</td>
<td>Not knowing customer requirements</td>
<td>Closer tolerances may generate higher scrap</td>
</tr>
<tr>
<td>Excessive inspections</td>
<td>Poor changeover methods</td>
<td>Slower cycle time</td>
</tr>
<tr>
<td>Excessive inspections</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Product change without process change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redundant/unnecessary approvals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Non-Utilized Talent

Perhaps the biggest waste of all:
Not using workers abilities, e.g., mental, creative, skills, experience

Causes of talent waste:
• Culture of organization, politics
• Poor hiring practices
• Ineffective or untimely training
• Minimal investment in training
Pay not market or performance based, high turnover
## Non Utilized Talent

<table>
<thead>
<tr>
<th>Examples</th>
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<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees not utilized in process improvement events</td>
<td>Organizational culture not conducive to employee input</td>
<td>Loss of time, ideas, skills, and knowledge from the people closest to the work</td>
</tr>
<tr>
<td>Employees not consulted in problem solving cases</td>
<td>Certain leaders may not be agreeable to employee input</td>
<td>Learning opportunities for management and labor missed</td>
</tr>
<tr>
<td>Employee ideas not utilized or piloted</td>
<td>Can’t “afford” the time</td>
<td>Process improvements limited to the abilities of management and process designers</td>
</tr>
<tr>
<td>No culture/system in place to capture employee ideas</td>
<td>Past results do not support future efforts</td>
<td>Lack of worker commitment to following standard processes</td>
</tr>
<tr>
<td></td>
<td>Results never measured and demonstrated</td>
<td>Analysis and improvements usually more expensive than using employees</td>
</tr>
<tr>
<td></td>
<td>Lack of trust between management and labor</td>
<td>Detail needed to obtain perfection is not known by non-workers</td>
</tr>
<tr>
<td></td>
<td>No management commitment to long-term process kaizen</td>
<td>High cost, longer cycle times, and less improvement</td>
</tr>
</tbody>
</table>
With Any Efforts…. Watch out for:

• Results may be real or they may be an illusion.
• *Illusion* – Actions that appear to lead to improvements but suffer from deteriorating results over time. Typical examples of solutions that create illusions are:
  • Re-organizations
  • Training
  • Awareness
  • Posters
  • Jargon
• Other actions that do not remove root causes from work processes
Mr. Sketch Marker Production Exercise
Set Up Directions
Using Lean Thinking to Deliver Business Results

Part 3- Practical Tools You Can Use
<table>
<thead>
<tr>
<th>Solutions to Barriers Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Barrier Impact</strong>&lt;br&gt;Relate to mission, rate as High (H), (M), (L). Also may want to estimate numerical impact.</td>
</tr>
<tr>
<td><strong>Probable Causes</strong>&lt;br&gt;Brainstorm list</td>
</tr>
<tr>
<td><strong>Most Likely Causes</strong>&lt;br&gt;Sub team consensus</td>
</tr>
<tr>
<td><strong>Possible Solutions</strong>&lt;br&gt;Brainstorm list, consider upstream fixes and innovation</td>
</tr>
<tr>
<td><strong>Recommended Solution(s)</strong>&lt;br&gt;Final recommendation from the sub team to be reported to full team during the reporting out consensus session</td>
</tr>
</tbody>
</table>

**Solutions to Barriers Worksheet**

Can be used to quickly assess a problem by identifying:

- Possible and most likely causes of problem
- Possible Solutions
- Recommended Solution to problem
- Some basic validation
5 S Thinking

- Sorting
- Straightening
- Shining
- Standardizing
- Sustaining

Source: The 5 S Store
• Decision Tree can be used to determine best tool for your problem
• Management action
• Best known performer – Benchmarking
• Team Action – Known problem – RPI
• Detailed analysis – DMAIC
Example Question Areas

1. Where is the problem occurring?
   - Where geographically?
   - Where in the process?
   - Where on the product?

2. When is the problem occurring?
   - Time of day?
   - Day of week?
   - Month of year?
   - After certain other things occur?

3. How is the problem occurring?
   - What process(es) experience defects?
   - What is happening when the defect occurs?

4. What exactly is occurring?
   - What is experiencing defects?
   - What product is defective?
   - What is the dispersion of the data?

5. Who is the problem occurring to?
   - Any particular group of people?
   - Any particular person?
   - Any particular shift?
Tools for Stratification

- *Any tool* that helps to pinpoint the problem may be used in the stratification process. In this workshop we will cover the basic tools below.
- Pareto Chart (Count data)
- Histogram (Measured data)
- Control Chart (overview)
- Process Map
- Work Flow Diagram
- Line Graph
- Radar Chart
- Scatter Diagram
- Process Analysis Matrix
DMAIC Problem Solving Roadmap

Step #1 - Define
- Receive and Confirm Project
- Define Process
- Assess Customer Needs
- Assess Business Needs
- Define Performance Measures (Metrics)
- Develop/Refine Project Targets
- Develop Project Plan & Team Charter
- Form team if necessary

Step #2 - Measure
- Stratify using the 4-w’s and 1-h
- Identify the major contributor(s)
- Prepare the Problem Statement
- Calculate the contribution to the gap
- Determine Improvement Process Strategy

Step #3 - Analyze
- Identify potential root causes
- Determine most likely root cause(s)
- Verify the true root cause(s)
- Quantify the impact of root cause elimination

Step #4 - Improve
- Identify Potential Solutions
- Evaluate & Select Solutions
- Design Solution Specifics
- Test Solutions
- Quantify Impact on Primary Indicator
- Obtain Approvals for Implementation
- Develop Implementation Plan
- Implement

Step #5 - Control
- Organize/Complete documentation
- Integrate process into daily work
- Prepare hand-off plan
- Handoff to Process Owner
**Team Charters**

- Useful in helping focus teams and individuals assigned to solve a problem with
- Linkage to Key Strategy
- Narrow scope of work to be done
- Measure to show improvement
- Timeline in which to operate
- Team members and champion or sponsor of the work

---

**Problem or Need:** Explain the problem or need the team is being formed to address. State what the problem is, where it is occurring, when it is occurring and any other pertinent information known.

**Background:** Briefly explain what led to the need for this team. Explain any history that would be applicable to understanding the problem or need. State the problem or need with data in terms of customer service, financial impact, and/or productivity. Include current compared to targeted performance and any costs associated with the problem.

**Link:** State how this effort relates to organizational priorities.

**Scope:** Define boundaries the team is to work under. Where does this process start and end? What is specifically not included under the scope of the project? What is included? What is the decision making power of the team? Budget? Sacred Cows? Understanding the scope helps prevent “scope creep.”

**Performance Measure & Target:** (State the Primary Project Indicator and target(s). State any special measurement information such as, “excludes Clay County members.” Also state any secondary indicators to be monitored)

**Customer Information:** State key customers/stakeholders, their needs and requirements. Also state any key business requirements.

**Interdependencies:** (State other functions or projects that are dependent upon or will be affected by the actions of this team.)

**Time Commitment:** Specify the frequency and duration of meetings, the amount of time per week team members will need to spend at meetings/assignments, how long a time span the team is expected to meet. This is important in obtaining commitment of resources for the entire project.

**Project Plan:**

1. **High Level DMAIC Project Plan**
   - **Measure**
   - **Define**
   - **Assess Customer Needs**
   - **Assess Business Needs**
   - **Define Performance Measures**
   - **Develop/refine project targets**
   - **Develop Charter**
   - **Form team**
   - **Define**

**Role** | Name | Department
--- | --- | ---
Champion | ...... | (person with ultimate ownership of project.)
Process Owner: | (person with overall responsibility for the project including ensuring results are achieved – may be Green Belt)
Green Belt: | (Expert in DMAIC process and tools, may also be the Project Leader)
Team Members: | (people assigned to the team to contribute knowledge and expertise, participate at all meetings, and complete assignments as directed)  
Mentor(s): | (optional person assigned to mentor leader/team/Belt regarding processes and tools used by the team)

**Primary Project Indicator:** (Run or bar chart showing current and targeted performance. This will be used to measure results of the project)

**Management Review Schedule (Gate Reviews):** At what points will management review the project and implementation progress? These reviews should be frequent and at a minimum at the end of each step of the process. These are often referred to as “Toll Gates” or just “Gates.” Process Owner, Champion and key stakeholders should sign off on the analysis before proceeding to the next step of the process. Negotiated with Champion and Process Owner at this point.
Part 4 – Other Tools to Deliver Results?
Six-Sigma

- Improvement Program
- Prescriptive
- Provides a “How” for the Sterling improvement cycle
- Focus on Results by Project

- Tools and process around for years
- Popular in Japan since WW II
- Became popular in the US in 1980’s
- Identifies Projects to improve performance
- Uses improvement processes, usually DMAIC
- Focus on improving quality & reducing costs
Malcolm Baldridge Criteria for Organizational Excellence

Built Around Core Values:
1. Visionary Leadership
2. Customer driven excellence
3. Organization and personal learning
4. Valuing employees and partners
5. Agility
6. Focus on the future
7. Managing for innovation
8. Management by fact
9. Social responsibility
10. Focus on results and creating value
11. Systems perspective
Malcolm Baldridge Criteria for Organizational Excellence

Criteria Are:

1. Leadership
2. Strategic Planning
3. Focus on Patients, Other Customers, and Markets
4. Measurement, Analysis, and Knowledge Management
5. Workforce Focus
6. Process Management
7. Results

Focus on the Entire Enterprise
Tree Diagram for Process Measures

Level 1 Processes
- Tax Collector’s Office – Mail Services
- Tax Collector’s Office – Front Counter Service Process
- Tax Collector’s Office – Internet Services

Level 2

Level 3
Process Measure Summary

“What must we do right all day, every day, in order to meet our customer and business requirements? What DRIVES our success?”

You cannot manage outcomes, you can only manage process. So, what should managers be managing all day?
Identifying Measures

Outcome Measures
• Measures the outcome of a work process, measured at the end of the production of a product or completion of a service
• # Minutes to serve a customer at the Tax Collector's Office
• # Days to respond to a customer inquiry
• % Customers requiring rework

Process (in-process) Measures
• Measures taken within the process, measured in real time, while the product or service is being provided
• Answers the question, “What must we do right every all day, every day, in order to get the outcomes we are looking for?”
• # people in the waiting room at the Tax Collector’s Office
• # days/hours for the mailroom to deliver a customer inquiry to the representative
Tree Diagram for Process Measures

Hypothetical Claims Processing Example – Non inclusive

What we want

External Customer Needs
- Timely payment of claims
  - Meet Contracts
    - Meet Regulatory Requirements
    - < 30 days from submittal
  - Accurate payment of claims
    - No Rework
  - Understandable explanation
    - No callbacks for explanations
  - Ease of submittal
    - High electronic claim submittal rate

Business Needs
- Adequate Margin
  - Lowest cost per claim
- Maximize cash flow benefit
  - Pay < 2 days from requirement
- Meet regulatory requirements
  - No regulatory complaints or fines

What we have to control or “manage” for timely payment of claims for contracts

Process Drivers
- Backlog < 50 claims/investigator
- Aging < 2 days
- Investigation complete in <6 days

Outcome Drivers
- First pass rate
- Timely reconciliation of edits
- Mail time <3 days

Drivers of the Drivers
- Timely COB resolution
- Timely edit resolution
- Timely Special Investigation
- Timely Medical Necessity

Probability of Success = \( P_1 \times P_2 \times P_3 \times \ldots \times P_n \)
Thanks!

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