OBJECTIVES

• Explain purpose of a Fishbone Diagram and how to use one

• Explain the technique of Brainstorming and the use of a P.I.C.K. Chart

• Explain the purpose of an Action Register and how to use one
Toolbox

All Tools in a Toolbox Serve a Purpose and are Useful if Used Correctly
Toolbox

Different Tools are used Throughout the DMAIC Process

**Define & Prioritize**
- Affinity Diagram
- Failure Mode & Effects Analysis (FMEA)
- Process Flow Chart
- Project Priority Calculator
- Value-added Flow Chart
- Value Stream Analysis

**Measure Performance**
- Histogram
- Measurement System Analysis (MSA)
- Pareto Chart (Manufacturing ex.)
- Pareto Chart (Service ex.)
- Six Sigma Conversion Table
- Statistical Process Control (SPC)
- Trend Chart

**Analyze Root Cause**
- 5-Why Analysis
- Design of Experiments
- Fishbone (Ishikawa) Diagram
- Regression Analysis
- Statistics Handbook

**Implement Improvements**
- 5S Tool
- A3 Report - NEW!
- Brainstorming
- Corrective Action Matrix
- Error-Proofing
- Kaizen
- One Piece Flow
- Pull Scheduling
- Quick Changeover (SMED)
- System Diagrams
- Total Productive Maintenance

**Control the Process**
- CHECK Process
- Control Plan
- Standardized Work
- Statistical Process Control (SPC)
Fishbone/ Cause-Effect Diagram
Purpose:

• Used to identify all contributing root cause factors associated with the problem

• Helps identify data collection needed

Benefits:

• Straightforward & easy to learn visual tool

• Organizes discussion to stay focused on the current issue
Fishbone Diagram
Completed Fishbone Diagram

**MEASURES**
- No written performance guarantees between departments
- Lack of department goals
- Everyone doesn’t understand how timeliness is calculated
- Lack of reporting

**PEOPLE**
- Lack of training
- Misroutes
- People pick the tasks they want to work
- Distractions

**PROCESS**
- Timeliness not understood in general
- No standard process for tasks
- Lack of formal/consistent procedure for working tasks
- Work queues - # of people assigned
- Policies require two weeks for some tasks
- No process for assigning open tasks when employee leaves department
- Lack of escalation process
- Criteria for “urgent” requests

**MATERIALS**
- Unclear request/action in notes
- No set guidelines for task note details
- Old training materials

**EQUIPMENT**
- Can’t force department and employee “route to”
- Lack of workflow process
- Processes are different based on two systems
- Some employees do not have full access to “route”
- System limitations (not routed to department all the time)

**ENVIRONMENT**
- Large number of tasks not unassigned to an individual
- Attitude = “I’ll work it when I get to it.”
- Short staff in some departments
- Lack of urgency

22% of tasks are not completed within the specified standard of 5 Days
Silent Brainstorm & P.I.C.K. Chart
Silent Brainstorm

Purpose: • To think of all possible ideas/solutions

Benefits: • Allows everyone to participate
• No pressure
• More potential solutions
P.I.C.K. Chart

Purpose:  
- To help analyze possible solutions and ultimately select the solutions that are best to implement

Benefits:  
- Buy-in to solution
- Helps determine feasible solutions which are the biggest “bang for the buck”
<table>
<thead>
<tr>
<th>Easy to Implement</th>
<th>Hard to Implement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td><strong>II</strong></td>
</tr>
<tr>
<td><strong>III</strong></td>
<td><strong>IV</strong></td>
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</tbody>
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- **P.I.C.K. Chart**
- **Big Payoff**
- **Small Payoff**

- **I** easy to implement and big payoff
- **II** hard to implement and big payoff
- **III** easy to implement and small payoff
- **IV** hard to implement and small payoff
Silent Brainstorm & P.I.C.K. Chart
Action Register
Purpose: To document:

- Critical tasks
- Ownership responsibilities
- Target completion dates
Benefits:

- Provides a visual reminder of action items needed to implement and maintain improvements, who is responsible and when they should be completed

- Helps monitor and control project goals to maintain the timeline
Putting These Tools to Work
HR Scenario

You are an HR Administrator and on payroll-processing week one of your workers comes to you and has identified that 20% of the workforce will not get paid. You ask them for their thoughts about what could have triggered this problem and they identified the following:

• Software/system error/failure-technology does not function properly

• Data error (e.g. effective dates incorrect in employee records such as hire date, termination date, return from disability leave-these impact the automated programming for scheduled pay)

• Human error (e.g. supervisor does not approve payable time; HR does not check reports; supervisor doesn’t enter time for part-time employees; HR does not enter leave benefit hours such as disability/childbirth leave)
Summary

• What is the purpose of the Fishbone diagram?
• What are some of the benefits of using the silent brainstorming technique?
• In your own words please describe what an Action Register is and what it is used for.
• What tool did you find most useful and why?
• Is there a tool you learned about today that you can go back and use at your job?
• What’s one thing you learned today that you didn’t know before coming in here today?
Q & A
RESOURCES

External Websites & Materials:
• http://lean.ohio.gov/
• http://www.isixsigma.com/
• http://www.moresteam.com/toolbox/index.cfm

Book Materials:
• Rath & Strong’s Six Sigma Pocket Guide
• The Blackbelt Memory Jogger (A Pocket Guide for Six Sigma Success)

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