EPICENTRAL

A Newsletter from Epicenter Development Group highlighting ideas that improve organizations

Welcome to Epicenter Development Group's newsletter, EPICentral. The purpose of this newsletter is to highlight fundamental ideas that have helped organizations develop and maintain great manufacturing and service operations. We hope that you find our EPICentral newsletter helpful, and we would welcome your comments on its content.

Cause-and-Effect Diagramming -- Getting to the Root of an Issue

Epicenter is a strong advocate of organizations having a common language and tools in their company "toolbox" to identify and solve problems. This month's newsletter is about what might be considered a "core" tool for identifying the root cause(s) of a problem - the Cause-and-Effect Diagram (C&E Diagram) or what some refer to as the "Fishbone" Diagram.

A C&E Diagram is principally a visual and structured method for helping teams to brainstorm potential sources of an issue. If used properly, C&E Diagrams can help a team to generate a more robust list of potential sources than with brainstorming alone.

The Process:

1. **Write down the problem statement**. Write down the issue or problem statement that you would like to address in a box on the far right side of a blank piece of butcher paper. Since the problem statement is an important part of the process, take time to make sure that the statement is clear, thorough and concise.   As a base, it should include the "what," where," "when," and "how much" of the problem.

2. **Identify main branch categories**.   Next, draw a line from the problem statement to the left and up to six "branches" off of the line (see example). Each "branch" will represent different categories for the causes that you will be identifying. Some typical categories to consider are: Machines, Methods, Materials, Manpower/People, Policies, Procedures, Equipment, and Maintenance.
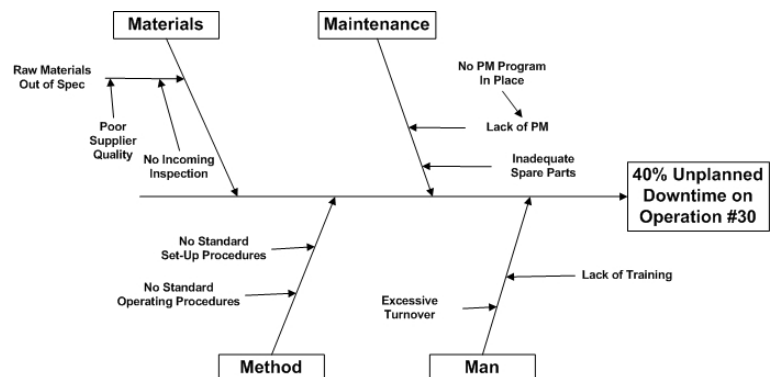
3. **Brainstorm potential causes**. Once you have identified the main branches, the team brainstorms potential causes within each category that would lead to the identified problem. As each potential cause is identified, it is written on the appropriate branch as a sub-branch (see example).

4**. Identify root causes.** Use the "5 Whys" process to identify the potential root causes for each potential cause listed. This process consists of asking "why does this happen" up to five times, and the information is then drawn on a sub-branch of the potential cause identified.

5. **Research the potential root causes.** Just because the team has identified some potential root causes does not mean that it has identified the "real" root causes. The final step is to use the information generated during this process as a starting point for researching the issues to determine their true impact on the problem.

Considerations:

- As an alternative, the main branch categories could also be listed as major process steps to point to WHERE the issue might lie. The point is that the categories should become a checklist for potential areas to consider.
- One method for generating the problem statement is the IS-IS NOT tool discussed in the June 2006 EPICentral newsletter.
- An alternative to drawing the sub-branches of the diagram is to use sticky-notes which can be attached in the appropriate area of the chart.
- Before researching the potential root causes, consider having the group "vote" on the areas to focus upon. It is often the case that a few causes will create the majority of the problem.

Next Steps

If you would like more information on this topic or other similar types of tools, please contact Bill Proctor with your request at wproctor@epicentergroup.com or 216-702-0952. You can also find previous issues of EPICentral at Newsletters.

Mr. Proctor also speaks on a variety of problem-solving and system design topics that can help companies significantly increase the success and profitability of their businesses. If you are interested in having Bill speak at one of your upcoming meetings/events or would like more information on any of the speaking topics, please visit Speaker Services or you can emailsales@epicentergroup.com.

Epicenter Development Group is a unique consulting firm that seamlessly integrates the disciplines of Systems Engineering and Organizational Analysis & Development to create practical design solutions to your toughest challenges. It is on the cutting edge of problem-solving solutions and the creator of a unique process called GreenRoom Engineering. This process adds greater value and cost savings for clients as

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compared to traditional engineering methods.

William Proctor, Epicenter's founder and president, has provided services around the country to more than 100 companies consisting of a variety of organizations; and Epicenter continues to grow as a resource for firms of all sizes.

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