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Root Cause Analysis – Getting Down To It

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Problems occur because we are all human and we all make mistakes or errors in judgment. There are many good (and not so good) ways to react to the problems that we encounter. Here are four common reactions:

- The ostrich approach. Let's pretend nothing really serious has happened. If we ignore it, the problem will go away.

- What can't be cured – must be endured. As Stephen Covey would say, how often do we fail to "sharpen the saw," and just continue to put up with the inefficiency and inconvenience rather than solving the problem.

- We can huff and puff and run around in circles, confusing activity with achievement. Not a very satisfactory course of action, but it gives the impression that we are doing something positive. And, of course, if we can also find someone to blame, the problem would appear to be solved.

- Take the time to determine the Root Cause and we fix the problem permanently. Every time that we get to the root or fundamental cause of a problem and fix it permanently, we strengthen our business system. Of the four, this is obviously the best way to react to a problem.

A Root Cause can be defined as the fundamental reason (s) for a problem, verified by all of the relevant data. The essence of Root Cause Analysis is the disciplined collection and analysis of data, which can be quite a lengthy process. But it is the approach that is most likely to isolate the true cause of the problem, clarify the extent of the problem and also suggest the best ways to solve it.

Take a simple problem. There is a hole in the roof that lets in water. The obvious solution is to fix the leak. But a Root Cause Analysis would show why there was a hole in the roof in the first place, which is a good thing to know to prevent it from happening again and to match the fix to the extent of the problem. If it's only a small, isolated hole, why replace the entire roof.

There are many documented approaches to Root Cause Analysis. A standard methodology is the 8D process, which actually has 9 documented steps:

1. Preparation and Emergency Response Action. How do we protect the customer NOW! A typical response might be – STOP the shipment.

2. Take The Team Approach. A cross-functional team will bring many different viewpoints and attempts to mitigate the effect of Conformational Bias (people tend to have a solution at the back of their minds and therefore just look for data that will support that conclusion. The saying, "To a man with a hammer, everything looks like a nail" has never been truer than in Root Cause Analysis).

3. Describe the Problem Accurately. Typically, if the problem can be stated in a succinct manner, you are halfway to a solution.

4. Containment Action. How can we protect the customer until we can establish the true root cause? A typical response might be 100% inspection – costly and not always 100% reliable, but a way to at least contain the problem.

5. Identify and verify the Root Cause.

    a) Observe the process;

    b) Identify and select potential causes; and

    c) Create and test the working hypothesis.

6. Choose and verify the Corrective Action.

7. Implement Corrective Action.

8. Evaluate Preventive Action

9. Congratulate and disband the Team. Teams tend to continue to meet long after the problem has been solved.

Does every problem warrant the 8D approach? A good test is to answer the following questions:

- ❑ Is the symptom defined and quantifiable?

- ❑ Do we know who experienced the problem?

- ❑ How serious is the problem to the organization?

- ❑ Is the cause unknown?

- ❑ Is more than one person needed to do the job required?

- ❑ Does the team have the management support necessary to resolve and eliminate the problem?

If the answer to any of those questions is "No", then the expense of 8D is probably not warranted. [i]

When properly applied, a Root Cause Analysis of a business problem can result in a business system that is stronger than before. Problems should be embraced – they are really opportunity areas – and, when fixed, the end result is a more robust business system.

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[i] Very often a customer may demand the documented process that 8D provides.