



***Looking For True Cause: At An Experiential Level Part Two of Three***

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***PART TWO: Potential Tool Matrix***

In Part One we discussed issues relating to a lack of data. Part Two deals with a brief overview of some possible tools that may help drive us to seek data using additional tools in an attempt to find True Root Cause. The following table is broken into four grids using Potential Cause and Potential Effect as the major axis. Possible tools that could be considered are listed in the four quadrants.

Quadrant One is composed of Potential Causes that are known (and measurable) with The Potential Effect also known (and measurable). This means that we understand the Cause & Effect relationship and simply need to document the protocol. To me, this is the best situation. You do not fix the problem, since you are preventing the problem. The Failure Mode Effect Analysis (FMEA) document is my tool of choice.

Quadrant Two is composed of Potential Causes that are known (and measurable) with The Potential Effects being unknown (and unmeasured). This means that we have characteristics we think cause a problem, but are not sure how it is shown (Effect). This may mean that sometime in the past it was agreed upon that these causes were felt to be of issue, so we began a measure process. Tools found in this quadrant are more statistical in nature and generally require a more formal approach. One word of caution comes to mind in this quadrant. Correlation does not always equate to Causation.

		POTENTIAL EFFECT	
		Known – Measured	Unknown - Unmeasured
POTENTIAL CAUSE	Known – Measured	<u>Quadrant #1</u> Failure Mode Effects Analysis	<u>Quadrant #2</u> Design of Experiments ANOVA (one or two way) Correlation
	Unknown - Unmeasured	<u>Quadrant #3</u> Event Logs Cause & Effect Diagram Affinity Diagram 5 Whys Is / Is Not SIPOC Statistical Process Control	<u>Quadrant #4</u> Reverse Eng – Break It & See Benchmarking 8-D Problem Solving



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Quadrant Three is composed of Potential Causes that are unknown (and not measured) with the Potential Effects being known (measured). This means that we have characteristics we think causes a problem, but are not sure how it is shown (Effect). This may mean that sometime in the past it was agreed upon that these causes were felt to be of issue, so we began a measure process. Information that comes from the tools in this quadrant run the risk of being considered data fact but are more subjective (from opinion) in nature. Tools such as Cause & Effect Diagrams may have been created by a team that was biased or resulted in Group Think or even were dominated by one individual more typical a D Personality Style (DiSC) or extrovert. SPC works well unless incorrect analysis of the Control Chart (or Limits) was determined through an unstable process or the misuse of terms such as outlier or noise which resulted in the ignoring of relevant data.

Quadrant Four is composed of Potential Effects that are unknown (not measured) with The Potential Causes also unknown (not measured). This means that we have problems that are difficult to measure and detect with no idea as to what caused them. Many times, this is a result of a new process with little or no background experience. We may have learned about the issue from a customer that resulted in a complaint or worse Recall. On occasion, I have seen the application of a very old approach. Most people will say, "If it is not broke, Don't try to fix it". I prefer to say, "If it is not broke, Break It!" (if possible). While not always possible, for very many reasons, people tend to work towards a solution through trial and error without regard. At times, we are restricted from this approach due to specific governmental oversight protocol. However, in keeping with Dr. Stephen Covey, Begin with the End in Mind (Habit #2: The Seven Habits of Highly Successful People. Then consider Capt. Edward Murphy's Law that says, "If anything can go wrong, it will".

## ***Lessons Learned***

People have spent their entire career working on becoming experts in the field of Problem Solving. I have always proclaimed, I would seek those that wish to be Problem Preventers. I was once asked my opinion regarding the distinction between Process Control versus Product Control. For the most part, I have seen most organizations focus on Product Control. That is, they are more interested in testing and analyzing the product or service to see if it is conforming. This tendency will often lead to those only interested in Product Control and creates those life career Problem Solvers. We seem to have lost the focus of Process Control that result in a Controlled Product. So, it is natural for us to not know the cause of a problem. That is like saying, my car is running ho and I don't know why. But if I realize that factors such as oil, antifreeze and others that may cause my car to run hot, I can then monitor those factors to prevent my car from overheating.