

As a Master Black Belt Sensei who has trained and certified 73 other Master Black Belts, I've spent a lot of time using, teaching, and playing with the various and sundry tools our methodologies bring to bear. Multi-Variant Regression Analysis, Design of Experiment, ANOVA, Monte Carlo Analysis, and numerous others are powerful, highly useful, challenging, and frankly, a lot of fun to learn and play with to solve large, complex problems!

However, I'm learning that often times; it's our simpler tools that solve the toughest problems. And not inconsequentially, I'm seeing that using some of these tools in newer, less traditional ways can be every bit as powerful, and even more challenging! A case in point, we had a client that was having problems with performance appraisals. The "Refuse to Sign" rate was more than 40% because the accuracy of the appraisals was so poor. We thought for some time about the best way to approach this as it was not a "traditional" process and it had a significant "behavior" component. Not your normal Lean Six Sigma project. We decided to take a very basic tool, the Gage R&R, and apply it in a very non-traditional way to solve this problem. As you know, the Gage R&R is designed to compare the variation between and within different operators, parts, and gauges to see if there are statistically different outcomes in the specific results and measurements each delivers as regards repeatability and reproducibility.

Using client data, we created 10 "composite" employees so that none of the managers would recognize a "known" individual which would bias the results. We selected several managers from different departments and had each do an appraisal of each of the composite performance documents. They evaluated each composite appraisal three times. Each review was one month apart. We also randomized for environment. We did one review after they had received an "unpleasant" session with their manager and then they went right into doing a review. We did one review after they came back from a three day weekend and were in reasonably good moods as it was the first thing they did when they got to work that morning. A third review was done randomly under normal conditions for that organization.

Before we began, we had many people, both inside the organization, and virtually everyone we discussed this with outside the organization, assure us with high confidence that it would not work because this was not what a gage R&R was "for". We were also counseled by all concerned that "all" of the anticipated variation would be found "between" managers (with the "other guys") who graded their people much harder/softer than they did. What we learned surprised everyone! The vast majority of the variation (in each case it's been in the high 80th percentile) was "within" each manager! No one was capable of doing the same review the same way twice. The problem turned out to be the highly subjective criteria used for making the evaluations...shocking huh? We re-designed the criteria and created very objective, definable standards and the problem was immediately resolved.

We've done this now at 4 different locations with exactly the same results each time. Instead of using highly exotic approaches, or using very complex tools, we were able to address a

long-term problem that we have since found out is almost universal. I continue to be amazed at the fact that now that we've done this and proven the results, how many people tell me "well of course that will work!" Before, and during the months of the experiment, we could not find anyone who thought we would get any "meaningful" results for this experiment because it was "just not what Gage R&R was designed to do". What a difference success makes! The lesson to be learned here is that while you are learning and playing with the tools, expect to get confusing or misleading results. Your ideas and/or results, especially if you are pushing the envelope, will not be simple nor will they be easy to understand. But when you get it right...that is a feeling worth remembering! And our simpler tools, used in non-traditional ways, can provide you and your teams with exactly that result. We've also found a way to do a DoE using no software with people that had no statistical training in a retail real estate office. People certainly were eager to let us know this would never work as well! It succeeded beyond anyone's expectations.

We often overlook our best tools because they are so simple we underestimate their power. Histograms and Pareto charts may be incredibly easy to generate but they often provide insight and solutions without any additional analysis. And after all, isn't the answer what we seek? After completing more than 1,036 Lean Six Sigma projects over the years, I've found that the vast majority of them can be dealt with using a combination of process mapping, histograms, control charts, a T-test, and the 1P and 2P tests. Throw in multi-variant analysis and there is very little you cannot gain considerable insight into! Don't get me wrong, there is absolutely a place for Design of Experiment and Monte Carlo! But never forget just how advanced an analysis you can do for your team and your organization by focusing on the basics and doing them well. The real fun comes when you can find a non-traditional use where our tools can solve a problem in a different way or in a different area where people wouldn't normally think our methods apply. It is now my firm opinion that we are truly limited only by our imagination and our creativity as to where these tools apply and how they can be used! Now let's ***Advance to the Basics*** and get something done!

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