

## Let the Real Six Sigma Stand Up

When I choose an aisle seat on a plane, I've noticed my flight arrives on time. When I choose a window seat, there are delays. Therefore, in the future I must choose aisle seats.

What's wrong with this reasoning? Quite a lot. It would earn a failing grade in any logic 101 course. Yet this is the kind of reasoning Charles Holland uses to reach a conclusion that Six Sigma diminishes rather than enhances the bottom line.

In *Wall Street Journal* and *Chief Executive Magazine* articles in January, the head of QualPro, a business consulting firm headquartered in Knoxville, TN, cited

research that identified 58 companies that had announced broad Six Sigma programs.

Holland then compared "stock performance for each of these companies since their announced Six Sigma launch date to the S&P 500 stock index. QualPro found that 91% of these companies had stock performances below the S&P 500 index since announcing a Six Sigma program."

Is this the kind of rigorous examination of facts that Six Sigma demands, or is it junk science? Scholarship or magical thinking?

Six Sigma training stresses that a correlation between two variables does not prove causation. The deployment or nondeployment of Six Sigma and a company's stock performance can be correlated. But correlation does not mean there is causation.

That's because many factors affect stock performance. There appears to be some vagueness, too, about the sample of companies QualPro chose for the survey. Were they a random sample, or were they cherry picked?

Let's consider Holland's identity of the subject companies' Six Sigma launch dates. What is a launch date? Is it the date an individual small scale Six Sigma project was initiated? Is it the date the CEO made Six Sigma a core strategy? Or is it some graduated date in between, chosen to support predetermined conclusions?

How did these companies perform before implementing Six Sigma? How did the S&P perform overall between the supposed start date and the date when the stock price was noted?

Granted, like any other method, including QualPro's multivariable testing (MVT), Six Sigma has its strengths and weaknesses. It cannot live up to all the claims of Six Sigma cultists who view it as the nostrum for every company's ills. There are also those who pay lip service to the method, embark on one or two projects or train one or two teams. Then they incorrectly claim their organizations are deploying Six Sigma.

Moreover, sometimes quality practitioners concentrate on cost reduction at the expense of customer satisfaction and whether the result helps the corporate bottom line or detracts from its potential. The method can lead to a worship of metrics, regardless of their relevance. Projects might be chosen based on the bonus they can generate for project leaders rather than their contribution to overall corporate results.

It can be argued that Six Sigma does not go far enough because it does not provide management all the tools needed to give it true control of an organization's activities. Six Sigma alone does not ensure everyone in the entire enterprise is doing the right things at the right time. Personally, I like to blend the methods and tools of both Six Sigma and lean into the overall enterprise to create a business system that gets organizations out of the firefighting mode and orchestrates efficiency and effectiveness throughout the workplace.

The QualPro website tagline is "Breakthrough Business Results with MVT." But what is MVT? According to its website, "MVT, or multivariable testing, offers a power-



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ful, inexpensive, efficient way to use statistics to test dozens or hundreds of business improvement ideas, discover the synergies between them, and prove with certainty which ones are the most powerful and profitable under real world conditions.”

### Remember DoE

In reality, MVT is design of experiments (DoE). The website also states, “While Six Sigma often claims to use multivariable testing, in reality most testing includes at most a few variables in standard DoE tests. MVT is testing a lot of different variables/solutions/business improvement ideas all at the same time.”

As a Six Sigma generality, this statement is not true. In my training, I encourage the use of many factors during an experiment in both transactional and manufacturing environments. For example, when I coached a Six Sigma customer in the use of DoE to eliminate a biscuit crumbliness problem for a fast food chain, we ended up with 11 factors in a 16-trial experiment.

When defining Six Sigma, the QualPro website states “these tools are not new (mostly old quality technologies from the 1980s) ...” I do not disagree with this point, except that there is now an improvement in the linkage of tools.

Holland’s website misrepresents Six Sigma when it reports: “The four-step Six Sigma (measure, analyze, improve, control) methodology lays out a very loosely structured path.” It should be pointed out that Six Sigma’s define, measure, analyze, improve and control (DMAIC) process uses five steps that are rigorous, interrelated and not loosely structured. A detailed process improvement project execution roadmap gives focus so that the right tool is used at the right time.

You will probably not find a stronger advocate than me in appreciating the benefits DoE/MVT can provide. But I also firmly believe that if you have a hammer you shouldn’t make everything a nail. DoE/MVT is not the only tool—or often not the best tool—to improve the overall business metrics for a given situation.

### Some Results Take Time

QualPro’s website also states “the reality is that process improvement competence cannot be developed in only a few weeks or even a few months of Six Sigma training. Six Sigma Black Belt process improvement novices may get the low hanging fruit (that is, the obvious successes), but they will not be able to take the company to a whole new level of performance. Just as learning to use a hammer and saw does not make a master carpenter, learning to create flow charts and control charts or to perform t-tests and F-tests does not make a process improvement expert.”

I will not disagree with this point. However, one point not mentioned is that highly qualified Six Sigma consulting companies also provide coaching for the companies’ newly trained personnel. That is, focus is on helping people learn to fish as opposed to simply giving them the fish.

“In contrast, an MVT improvement project can be implemented in an organization with very little employee and management training, provided the organization has the assistance of a seasoned process improvement expert with advanced statistical training in multivariable testing,” according to the QualPro website.

Is this good? Does this strategy provide the framework to create a

learning organization, as Peter Senge emphasizes in *The Fifth Discipline*? Does this strategy treat everything as a nail, since it appears that the only tool QualPro suggests is a hammer—MVT?

### Sustained Success

Six Sigma has proven itself in many ways by bringing significant benefits to users. It continues to make enormous contributions at all levels throughout organizations of all sizes worldwide, by improving companies’ performance in designing, producing and delivering products and services that customers need and want. Its positive effect on individual projects of every description as well as its overall impact on the performance of operations and efficiencies of companies large and small—regardless of how accurate specific savings are in every instance—is testimony enough in the face of criticism in or out of context.

The *real* question is: What would be the end result of any company’s performance at any level without the proven results this discipline has achieved and can accomplish?

Top executives must examine the causes and effects of all quality methods, support them proactively, monitor operations up and down the line in assessing whether or not and how they impact current and future corporate results, and rise above methodologies like these to truly manage their enterprises.

The litmus test also is for this continuity to occur regardless of management changes at any level. Only then can business leaders really tell what effect any methodology they choose might have on strategies in the best overall interests of their constituents—private or the investment community. 