

I'm Sick of Settling!

Six Sigma and other symptoms of American mediocrity

For the past year, I've been traveling to China about once a quarter to teach some of my seminars for the China Institute for Innovation. I present both open-enrollment seminars at their training center in Shanghai as well as on-site seminars for some of their clients in Shenzhen and other locations. On this most recent trip, I taught my *Introduction to Design of Experiments (DOE)* and *Failure Model and Effects Analysis (FMEA)* seminars, as well as an executive workshop on *Systems and Statistical Thinking* – based on the first two components of W. Edwards Deming's "System of Profound Knowledge."

As always, I could not help but notice a high level of energy, not only among my students but also throughout the city. Railway, highway and other major construction endeavors are underway. Many of the plants and research centers I see and in which I teach have ongoing expansion projects. The shopping centers are packed with shoppers day and night. You can't find a seat at restaurants. And the most common complaint among the managers I meet is the difficulty finding good people to fill their job openings.

This month, I flew back home to hear a lot of very depressing news. The city of Detroit had filed for bankruptcy. The reported national unemployment rate had risen to 7.6 percent in May; and some claim that the actual unemployment rate is greater than 10 percent. For example, according to the *International Business Times*, "If one counts those who want a job but are no longer looking, the number of people out of work is more than 14 percent, about 14.3 percent, according to U.S. government data. That's higher than the rate in countries like Ireland and Italy and almost 3 percent higher than that of the entire European Union."¹

So, according to U.S. government data, our unemployment rate is worse than *Italy's!* The most recent data report an 8.1 percent unemployment rate for my home state of Connecticut. Who knows what might be the actual unemployment rate in my state?

We Can't Even Keep the Lights On

I'm sick of seeing the country I love doing so poorly. I'm sick of seeing us waste all the gifts God has given us. Detroit had to borrow \$80 million from the Bank of America last year just to keep the lights on.² I wonder what happened to all that money, because "as it is, 40 percent of the 88,000 streetlights [in Detroit] are broken, and the city can't afford to fix them."³

I was expressing my frustration over these figures to a manager at one of my clients, and he was quick to point out the reports of high inflation in China and that China's growth rate is down. (I guess misery loves company.) I did a little research to learn more about those factors and others.

Trading Economics is a web site that supplies economic information for over 190 countries, providing historical data for more than 300,000 economic indicators. Their web site reports that the inflation rate in China had indeed risen to 2.7 percent for the month of June, compared to 2.1 percent for the previous month. The June rate was lower, however, than the 3.2 percent level in February of this year.⁴

A recent article in the *New York Times* reported a slowing in China's rate of economic growth to just 7.7 percent but added, "This would be a robust rate for most countries' standards, but is weak for China."⁵ Speaking of "most countries' standards," the economic growth rate for the U.S. at this time is a mediocre 1.8 percent.⁶ Though the *New York Times* article's topic was China's economic troubles, the same piece reported "signs of strength: retail sales are up 12.9% over the previous month and industrial production is up 9.2 percent over a year earlier."⁷

Even more depressing are the balance of trade and government debt to gross domestic product (GDP) data. According to *Trading Economics*, China's balance of trade is +\$271,240,000, while the U.S. is in the hole at -\$45,037,000,000. Our government debt to GDP is 101.6 percent (i.e., our debt is greater than our gross domestic product!) while China's government debt to GDP ratio is 23.00 percent.⁸

Is there hope in the private sector?

Of course, many of the figures shown above are macro-economic numbers influenced and reported by governments. I always hear (and agree) that it's the private sector that is the engine that drives our economy; it's the private sector that will and must provide jobs and economic growth. Unfortunately, too many organizations in the American private sector are exhibiting the same malaise and mediocrity as our overall economy.

For example, Six Sigma is and has been all the rage in many companies for quite some time. Why are we settling for Six Sigma? Whoever said that Six Sigma is a high standard for process performance and quality?

A generation ago, Ford Motor Company's automatic transmission assembly plant in Batavia, Ohio, ran out of capacity to fuel the Ford Escort assembly plants. So, Ford outsourced. They went to Mazda and ordered automatic transmission assemblies to Ford's design and specifications for Ford's cars.

Later, it was discovered that the Mazda transmissions had lower warranty costs and repair frequencies than the Ford transmissions. (Repair frequencies on the Ford parts were five times higher than the Mazda assemblies.) Both Ford test engineers and consumers also reported that the Mazda transmissions performed "more smoothly." Ford engineers broke down both the Ford and Mazda-produced parts and assemblies. The Ford transmissions were found to be using 90% of the total tolerance.

The Mazda assemblies – made for Ford to Ford's design and specifications – used only 30% of the total tolerance. Both products were 100% conforming to specification; but the Mazda assemblies were of superior quality. This proved to be a breakthrough in how Ford viewed and defined quality. Bo Westerkamp, a Ford Quality Control Supervisor involved in the study, summarized their findings: “I guess the bottom line that we learned is that meeting blueprint is not good enough.”⁹

Think about it. In 1987 – before the spread and popularity of so-called Six Sigma – the Mazda transmissions were centered on the nominal, using only 30 percent of the total tolerance. In other words, the first Ford Escort transmissions Mazda ever made were *Ten* Sigma – and we are settling throughout American industry for Six Sigma. In fact, few so-called Six Sigma companies are even requiring Six Sigma quality levels. The most common Cpk standard I encounter for both internal operations and suppliers is a Cpk of 1.33 – or merely *Four* Sigma!

Let's go back in history even further than the 1987 Batavia Study. Wheeler and Chambers referred to an example of “continual improvement” at Tokai Rika Company, a manufacturer of lighter sockets in Japan. In their text, *Understanding Statistical Process Control*, they presented an extensive summary of charts and data maintained by Tokai Rika from August 1980 to October 1981.¹⁰ The authors reported the following levels of product and process quality:

1. The process output was centered on the nominal of the design specification, using only 20 percent of the tolerance.
2. During the period represented by the data, Tokai Rika produced 2,906,000 parts without a single defect.

Back to the Future

Here we are in the 21st century, getting all excited about Six Sigma (though often settling for Four Sigma). More than three decades ago, a little lighter socket manufacturing company in Japan was maintaining *Fifteen* Sigma capability! A Six Sigma capability level produces only about 3.4 parts per million defective. 33 years ago, a little lighter socket manufacturer produced zero parts defective out of close to *three million*.

I'm sick of mediocrity and I'm not going to settle for it anymore. I will write about it in blogs. I will warn about it in my seminars. I will do everything I can to help my clients recognize and eliminate mediocrity from their products, services, processes and work environments.

How can we overcome the malaise and mediocrity that characterizes too many U.S. organizations? Perhaps we should consider going “back to the future.” Back in the 1980's (and even before that) Mazda and Tokai Rika and Toyota (and even Ford) and other successful companies adopted the principles of the late Dr. W. Edwards Deming. They accomplished dramatic improvements in quality, productivity and competitive position.

Let's go back to the future; let's study Deming's system of profound knowledge, adopt his principles and apply the powerful statistical methods he taught. Let's provide leadership to create healthy environments for work, for learning and for continuous improvement. Let's stop settling and let's start using all of our gifts to accomplish excellence.

Or, we can stick with Six Sigma and settle for mediocrity. As Deming was so fond of saying, "It's not necessary to change. Survival is not mandatory."

Notes

¹C. Harress, "The Secret Life Of Unemployment: Jobless Rate In The U.S Higher Than Italy And Ireland But Is Hidden By Government," *International Business Times*, www.ibtimes.com, July 26, 2013.

²T. Krisher, *Associated Press*, "Why Detroit can't make a comeback like the Big Three," *The Denver Post*, www.denverpost.com, July 23, 2013.

³S. Hackett, *National Public Radio*, www.npr.org, July 20, 2013.

⁴A. Fedec, "China Inflation Rate," U.S. National Bureau of Statistics and *Trading Economics*, www.tradingeconomics.com, July 9, 2013.

⁵K. Bradsher, "In China, More Signs of Slowing Economic Growth," *New York Times*, June 10, 2013, p. B2.

⁶A. Fedec, *op. cit.*

⁷K. Bradsher, *op. cit.*

⁸"China Economic Indicators" and "United States Economic Indicators," *Trading Economics*, www.tradingeconomics.com, July 26, 2013.

⁹"Continuous Improvement in Quality and Productivity," Film produced by Radio, TV, and Public Affairs Staff, Ford Motor Company, Dearborn, MI (1987).

¹⁰D. Wheeler and D. Chambers, *Understanding Statistical Process Control, Second Edition*, SPC Press, Inc., Knoxville, TN (1992), pp. 154-177.