Why Bother with Training in Data Analysis?

Donald J. Wheeler

In this time of a shrinking American work force—often stretched so thin as to lose all elasticity—the question is not only relevant, but must be answered. Why spend time and money on more training? Why should any employee miss 3 or 4 days of work to attend a seminar? What will it profit the employee? More to the point, how will it affect the company's bottom line? This article gives the answers to those questions.

Every organization has to generate revenues in order to continue to exist. These revenues must cover the expenses of the organization, provide working capital for future operations, and provide the profits expected by the shareholders. Because of this economic fact of life, all managers have to focus on the bottom line of the cash flow statement. From an executive's point of view the world consists of three things: income, expenses, and profits. The objective is clear: increase income, lower expenses, maximize profit. So how can you and your organization achieve these objectives?

Managers commonly seek to meet this objective by setting sales goals, establishing quotas, having contests, launching advertising campaigns, creating new products or packaging old products in new ways, or raising prices to whatever the market will bear. At the same time, in order to lower expenses managers cut back on inventory levels, decrease staffing, provide lower levels of service, and slash all indirect expenses. Sound familiar? As a result, we are all—consumers and employees— trapped with decreasing levels of service and with a growing sense that everyone is increasingly harried as they are left to do more work with fewer resources. Every department, and often every person, is in competition for scarce internal resources, and cooperation is rare. As everyone scrambles to take care of his or her own turf, the organization suffers, and so new waves of cost reductions are put in place, continuing the downward cycle.

This destructive cycle is seen in many companies today. It is the inevitable consequence of "management by results." When the corporate numbers are not good, the divisions get goals and targets. When the divisional numbers are not good, the departments get goals and targets. And when the department numbers are not good, the manager is reprimanded and individuals are given "stretch goals." This endless game of "making your numbers" leads to a cover-your-anatomy mentality in which the need to survive the internal competition becomes dominant, taking precedence over the needs of the company and the needs of the customer. The company often becomes little more than a financial football—a collection of assets to be reorganized, stripped, sold, and resold.

While the objectives of increased revenues, reduced expenses, and increased profits are legitimate, the real question is how these goals will be met. By far the simplest way to meet goals and targets is to massage the data—"Isn't there some way to show a five percent increase in productivity by the end of the year?" Of course, when data are massaged they become distorted. While this distortion of the data requires the least effort, it has the disadvantage of coming back to haunt you, requiring further distortions and resulting in unrealistic expectations.

The second way you can meet your goals and targets is to "work the system." This can take many forms ranging from simply shifting the blame to another person (or another department or another division), to changing the way the numbers are collected, to changing the actual processes to hide the problems. "Put the incomplete units in boxes and ship them—we'll let the service department finish assembling them in the field." Business becomes a game of tag where the objective is to avoid being "it" at the end of the month.

These "distort the data" and "distort the system" approaches are so common that many people have come to think that the major purpose for collecting data is to hide the problems. "We collect data to show how good things are—whether or not they are." Using data to lie to the numerically naive has been a common practice for so long that "statistics" has come to be a synonym for obfuscation, distortion, and confusion.

But there is a better way…

There is a way to simultaneously increase quality, boost productivity, and ensure an advantageous competitive position.

This better way does not consist of management by results.

Instead of focusing on outcomes such as expenses and profits, this better way focuses on the processes and systems that generate the outcomes. Rather than trying to directly manipulate the results, it works to improve the system that causes the results. Rather than distorting the system or the data, it seeks to use the data to understand the system as a basis for improving the system. This better way is known as Continual Improvement. It makes use of statistical tools to improve productivity and profitability in any company.

How is Continual Improvement different from "doing the same old thing" under a new banner? How can Continual Improvement have a real impact upon the bottom line?

Take, for example, the problem of reducing costs. Continual Improvement looks at costs as outcomes. In the traditional way of working we would focus directly upon reducing costs, and as a result we might well undermine the future to make the current numbers look better. Continual Improvement focuses on the causes of those costs—the processes that generate them. When this is done, it is common to find that a substantial portion of the costs are due to rework—things not done right, correcting errors and mistakes, and the complexity that these introduce. By working to eliminate these causes of poor quality, and thereby to reduce the complexity of our processes, we can reduce costs while improving our operations.

Continual Improvement is an approach that focuses on the processes which generate the essential business that allows for a profitable bottom line. The traditional focus upon income and expenses tends to place different departments in competition, destroying cooperation, and undermining the delivery of products or services that customers want. The objective has been to make your numbers by whatever means possible. In contrast to this, Continual Improvement seeks to build a system where the processes are integrated to deliver a product or service that will not only satisfy the customers but will delight them.

By encouraging internal cooperation instead of internal competition, Continual Improvement

releases the creative energy within your organization that was formerly devoted to survival. It encourages communication instead of secrecy, which builds trust rather than distrust, and thereby creates an organization that can respond to changes in the business environment. The alternative is to "continue the beatings" until your company goes out of business.

Of course, Continual Improvement requires a methodology for studying processes and systems, and a way of differentiating between the different types of variation present in processes and systems. There are techniques to be learned. But there is also a way of thinking to be practiced, and that is where it gets hard. Those who have traveled down this road universally proclaim the new way of thinking to be worth the effort, and the results do show up on the bottom line.

Now that you know why training in data analysis is essential, we invite you to our seminars! Our seminars teach both the techniques and the way of thinking that you need to know if you're going to be effective in promoting that profitable bottom line. It's a system proven by hundreds of companies and organizations and you can take advantage of it. Several have even traced their turn-arounds to our seminars. So where do you begin?

- If you are in a service industry or administrative job, start with **Making Sense of Data.**

- If you're an engineer, or if you work in process or manufacturing industries, you should start with **Understanding Statistical Process Control**. This course is not your typical class in control charts, but provides a comprehensive approach to data analysis that works.

- If your job is research and development the seminar you need is **Successful Experimentation,** an approach to industrial research that has been highly praised both by its participants and their managers.

- If you are in a **Six Sigma Program**, you will eventually figure out that there is more to Continual Improvement than doing a series of projects. Call on us for training and you will join a large group of successful companies who have learned that there is more to data analysis that a laundry list of techniques and a piece of software. **Practical Data Analysis** is Dr. Wheeler's newest seminar, and it is designed to teach Six Sigma practitioners what all the rest of their training forgot to tell them.

Wherever you are in your quest for increased profitability, better productivity, or even a higher level of quality, we have the tools to help you succeed. This is a important investment for your company and a great opportunity for your own professional growth.