The Five Fundamental Principles of Six Sigma – Part 3

In this article, I will wrap up the overview of the five fundamental principles of Six Sigma, by looking at measuring what we value. As a quick reminder, the five principles outlined by Six Sigma founder Dr. Mikel Harry are:

• We don’t know what we don’t know
• We can’t do what we don’t know
• We won’t know until we measure
• We won’t measure what we don’t value
• We don’t value what we don’t measure¹

Being unsure of how we are performing is not comfortable for most people and prevents us from making well-informed decisions. We use measurements to reduce uncertainty and develop a more concrete understanding. As you read through this article, I will frequently use the terms metric, measure and measurement. These are very different things, so for your reference, here are the definitions that I use for each one:

<table>
<thead>
<tr>
<th>Metric</th>
<th>An attribute to be measured, having a specific level of desired performance or output (performance target).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure</td>
<td>The scale of units used to assess a metric, and assign a value to the attribute of interest.</td>
</tr>
<tr>
<td>Measurement</td>
<td>The act of applying a scale of units to an attribute in order to obtain a value.</td>
</tr>
</tbody>
</table>

Why measure

In his book The Wal-Mart Effect, author Charles Fishman provides a look into the culture of the giant retailer and the company’s global impact. The book points out that the company runs a tight ship, and they measure everything. The information they collect is used to make decisions about how to best run the stores and, above all else, drive sales. Their primary focus is on sales metrics and everything else they measure ties back to how it affects the sales numbers. The sales metric is so important that Wal-Mart’s executives and managers are expected to know where their sales are on a daily basis. If sales are not meeting expectations, they use the information they have gathered to make decisions and take action to get sales back on track. Wal-Mart

understands that measurement is critical to their success and they measure what they value (sales dollars).
Measuring how we are performing as a university is important to ASU’s success as well. Without sound measurements we have no way of knowing how well we are performing in relation to organizational goals, department or unit goals, and if we are meeting our customers’ expectations and serving them effectively. As an organization, we can use the information we collect from measurements to assess how we are performing and make decisions that benefit the university, students, and partners. Wal-Mart’s single store sales feed into district sales and ultimately the sales performance for the whole company. Similarly, ASU has organizational goals, and the actions and activities at the department, unit and process levels feed into and affect the accomplishment of these goals.

What to measure
The last two fundamental principles of Six Sigma say that once you decide to go out and measure, you have to spend some time identifying those things that are valuable before going out to take measurements. If accomplishing a specific goal is important, or providing world-class service to students is a core value, then you must measure your performance tied to those goals and ensure that you are accomplishing what you set out to do. The principles also state that you want to avoid spending time measuring things that are not truly relevant or important, as this just wastes time and resources.

Selecting the right metrics to measure sounds simple, and to a point it is; but you have to take the time to ensure that the measures you choose are going to give you information that will truly improve your understanding and be useful for making decisions. I say this because it has been my experience in working with various organizations, and even some units here at ASU, that people want to jump at the first metric they think of and start measuring. Often these metrics are selected because the data is readily available or very easy to obtain. Sometimes the first recommendations are on target, and you end up measuring something valuable, but more often than not those first impulses only uncover measures that have limited usefulness. You do not want to choose a weak measure only to find out later that you have spent time and resources on efforts that will not provide you with any benefits. Worse yet, you do not want to measure the wrong metric and use that information to make decisions that lead you in the wrong direction – wasting more time and resources along the way.

Example of selecting a metric
Here is a student-focused example to consider. I am trying to keep this example very generic, so bear with me. One of the most common things the gets thrown out early in discussions is measuring the number of students being served, which can be useful for analyzing things like demand, resource requirements, process pace, developing performance ratios, etc. But short of forcing students to interact with you, this number is not directly controlled by the unit providing the service (although it can be influenced by things like marketing).
Let’s go a step further. If your unit’s core goal is to provide services that enable students to successfully complete their degree program (what you value), then you will gain the most useful information from measuring whether your interactions move the students closer to the successful completion of their degree, and whether or not you are meeting their needs during your interactions with them. It is in these areas where you would want to spend your time looking for relevant metrics and implementing the systems needed to measure them.

The answer as to exactly what to measure will depend on the organization, department, and customers’ needs. I will be the first to admit that it is not always easy to measure what is important, but I do not believe that there is anything within a business or customer service environment that cannot be measured in some way. It may take some thought and effort to get the data you need; but if it is truly something that is valued, then it will be worth it.²

**Collecting data**

After identifying what to measure, you need systems in place to consistently gather and report the data. The systems must collect valid and reliable information, and provide it to you in a way that is useful, or can be made useful with minimal effort. If the information you are collecting is not relevant to what you are trying to understand, or is inaccurate, then the information is useless.

Since you will have to invest time and resources measuring, you will want to keep your efforts organized. Developing a measurement plan can be a valuable tool because the plan clearly outlines how often the data will be gathered and reported, what methods will be used for the collection of data and analyzing it, what information will be reported, and who will be included in the distribution of the information.

**A few comments**

As the five principles say, we don’t know what we don’t know, and we won’t know anything until we get up and go measure those things we value. I hope you will look at the work you do and what you value, think about where you could benefit from having more information, and go find ways to gather that data. If you would like to read more material about metrics, you can read my previous article “A Quick Look At Metrics” posted in the archive. As always, I welcome your questions or comments about this topic or any others related to service and process improvement. You can email me at clayton.taylor@asu.edu.

² Unless the cost of measuring is so expensive that the measurement becomes cost prohibitive or would negatively impact the organization. If the cost to get to the data outweighs its usefulness, then comparable alternative measures that will not be as costly should be considered.
About the author:

Clayton Taylor, MBA, is the Director, Organizational Performance and a Certified Six Sigma Master Black Belt working in the Office of the Executive Vice President, Treasurer and Chief Financial Officer at Arizona State University. He leads the Organizational Performance Office. He and his team currently consult with diverse Business and Finance and university-wide operational areas to lower costs, improve operational efficiency and provide the highest quality customer experience to internal and external customers. Mr. Taylor can be reached at clayton.taylor@asu.edu.