To guess is cheap. To guess wrongly is expensive.

Old Chinese proverb

Doing the right thing right

Reinventing government, customer performance and assessment, business process re-engineering (BPR) and total quality management (TQM) are all terms that represent initiatives being used to improve quality.

In reviewing dozens of definitions for quality, I have found that all of the definitions have one thing in common and that is: "doing the right thing right." Striving to do things right represents efficiency. Doing the right thing represents effectiveness.

Efficiency and effectiveness are interdependent — you need both — but can be mutually exclusive. You can be efficient without being effective and vice versa. For example, one of the long standing problems within the Defense Department is the challenge of matching disbursements with obligations. Efficiency is striving to disburse monies within the guidelines prescribed by laws, policies and regulations. Effectiveness would be ensuring that all requirements, such as matching disbursements with obligations, are met. Quality, in this example, would be matching disbursements with obligations while meeting all statutory and regulatory requirements with the fewest resources possible.

Dr. W. Edwards Deming, an American expert who taught quality theory to the Japanese, summarized the relationship between efficiency and effectiveness, saying: "Willing workers doing their best won't do it. You have to know what to do then do your best."

Peter Drucker and Warren Bennis, management experts, linked the relationship of efficiency and effectiveness to management and leadership respectively. They said that: "Management is doing things right; leadership is doing the right things."

The "right thing" is determined by the customer who defines the requirement. American citizens are the primary customers of government and expect all services to be delivered efficiently and effectively.

Continuous improvement

Improvement is bringing about a more valuable or desirable condition. It is achieved by fixing something in one area without making it worse in another.

Continuous means never ending or without a break. Improvement has to be continuous because quality either gets better or it gets worse. For example, if it takes the same amount of labor and materials to produce a similar level of service year in and year out, the costs of labor and materials needed rise continually — costs that are passed on to the customer. Consequently, an organization is either getting better by providing the same service at less cost, or it is getting worse because of rising costs that have to be passed on to the customer. The goal for many organizations is to deliver higher quality at less cost.

Continuous improvement is achieved by reducing variation. To develop an understanding and appreciation for variation, it is important to be aware of the interrelationship between facts, problems and variations.

Fact, problem, variation?

A fact is an observation of a situation, for example, the fact that DoD has many automated financial information systems that service similar functions. One of the agency's goals is to implement standard DoD-wide administrative and financial processing systems.

Problems represent the perceived difference between a desired condition (want) and an actual condition or fact (got). Problems represent choices, and choices vary and are optional. For example, before DFAS, the actual situation was that each branch of the service was responsible for developing and maintaining its own unique finance and accounting systems. There was no requirement (desire) to change.

The desired condition for DoD is to standardize systems across the services. In the area of civilian pay, for example, more than one half of the Defense Department's civilian employees are now served by a standard pay system. The desired condition is for 100 percent, which implies that there is still a problem.

Variation is a law of nature that states that everyone and everything is one of a kind, and that nothing will ever be perfect. Variation is the difference between what the ideal would be in a perfect world and the actual. An ideal and a desired outcome are not necessarily the same. For example, in an ideal or perfect world, we would not need government, DoD or DFAS. A desired condition is represented by the following DFAS vision:

We are committed to provide our customers with real-time, quality financial management information accounting, and payment services at a fraction of current cost.

Many people choose to accept that once a desired condition is achieved, there is no longer a problem. This situation is commonly referred to as the status quo. Once the DFAS vision is achieved (real-time services are provided at a fraction of current costs), DFAS can choose to continue to improve quality by developing a new vision (desired outcome) because improvement requires a problem, a problem represents a variation, and continually reducing variation is the only way to improve quality.

Since nothing will ever be perfect, variation is a factual difference between the ideal and the actual. It is this difference that makes continuous improvement possible but also introduces a paradox — striving for something (perfection) that you will never achieve. It is this paradox that creates a demand for leaders who can inspire people to continually work toward the ideal.

Given that variation is a fact, a problem represents an unacceptable degree of variation, and a solved problem represents an acceptable degree of variation. The degree of acceptability also represents a choice.

Technology and continuous improvement in all aspects of financial operations may eliminate the need for DFAS — as we know it today — by the end of the 21st century.

In the 1920s, Dr. Walter Shewhart of Bell Telephone Laboratories developed a revolutionary approach for identifying, controlling and predicting variation (quality) in any product or service. Shewhart's techniques were considered so important for improving the quality of war materials produced during World War II, that they were classified "top secret." After the war, the techniques were abandoned by American manufacturers, declassified and exported to Japan.

Shewhart's methods are referred to as statistical quality control (SQC). "Statistical" can include measures based on customer surveys or on more objective information. "Quality" (doing the right thing right) is determined by the customer. "Control" is important because it aids prediction and if something can be predicted, it can usually be improved.

SQC is not just a "business thing;" it can be applied to improve quality in any aspect of life. **(for in-depth information on SQC, see Page 10)** For example, while serving as an Army reserve officer assigned to an infantry training unit, my reserve company used SQC to improve our skills in teaching basic rifle marksmanship (BRM) to 100 initial entry soldiers. In comparison to full-time (active component) companies, our unit BRM results placed us in the top 5 percent. My 12-year-old son used SQC to improve his basketball free throw shooting percentage from 40 to 70 percent. SQC methods were used to design a data quality assurance procedure for DFAS that could support a goal of reducing software cycle management costs by 5 percent a year.

Approaching quality

The challenges facing DoD and DFAS are unprecedented. The American people continually demand higher quality at less cost. Initiatives such as reinventing government, improving customer service, BPR and TQM represent approaches for improving quality. Although the relative strengths, weaknesses and scope of these approaches can be debated, hopefully, everyone can agree that quality is the common ground and continually reducing variation is the key to quality.

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