

## *Executive Summary:*

Multiple improvement philosophies exist, yet each may yield different results:

- Activity Based Costing – focused on expense allocation
- Six Sigma – focused on defect reduction. May not be so good for innovation of new processes
- Lean – focused on eliminating “waste” and improving the “flow” or smoothness of the operation
- ISO 9000 - confirms that a repeatable and documented process exists but doesn’t comment on degree of efficiency or quality in the process
- Malcolm Baldrige NQA – provides a framework to evaluate an entire organization on a point system providing a baseline for improvement

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## WHICH IMPROVEMENT PHILOSOPHY IS MOST APPROPRIATE FOR YOUR ORGANIZATION AND WHY.

In the past three decades, due largely to initiatives like TQM, Lean and Six Sigma, productivity among US manufacturing firms has nearly tripled. However, US service company productivity is up only 40%<sup>1</sup>. Problems with products in manufacturing are not the fault of the products – the root cause is in one or more of the processes that design the products. Service industries (i.e., insurance, healthcare, financial services, hospitality, real estate, etc) are *pure process* businesses and improvement philosophies identified originally in manufacturing can be applied across service industries as well. The question is which improvement principle/philosophy makes the most sense for your organization/industry and Why?

What follows are some high-level overviews of different improvement philosophies that highlight the unique characteristics of each approach, its origin and its intended purpose to use as a guide in determining which approach best fits your organizational needs. The philosophies reviewed include:

- Activity Based Costing
- Six Sigma
- Lean
- ISO 9000
- Malcolm Baldrige National Quality Award (NQA)

Following these definitions is an At-A-Glance matrix that summarizes the key points of each measurement method. Key components of the At-A Glance include:

- The origin of the method
- Applicable service industries
- Pros and Cons to each improvement philosophy

### Activity Based Costing

In a business organization, Activity-Based Costing (ABC) is a method of allocating costs to products and services. It is generally used as a tool for planning and control. ABC helped to alleviate the arbitrary adding of broad expense percentages to all products (direct costs) to cover indirect costs. Unable to calculate the true costs of production at the product level, ABC was developed for manufacturing in the 70’s and 80’s. Instead of using broad, arbitrary percentages to allocate costs, ABC seeks to identify cause and affect relationships to objectively assign costs. Once costs of the activities have been identified, the cost of each activity is attributed to each product to the extent that the product uses the activity. In this way ABC often identifies areas of high overhead costs per unit and so directs attention to finding ways to reduce the costs or to charge more for costly products.

## Six Sigma

Six Sigma is a set of practices originally developed by Motorola to systematically improve processes by eliminating defects.<sup>[2]</sup> A defect is defined as nonconformity of a product or service to its specifications.

Six Sigma was heavily inspired by six preceding decades of quality improvement methodologies such as quality control, TQM, and Zero Defects. The term "Six Sigma" refers to the ability of highly capable processes to produce output within a predefined specification. In particular, processes that operate with six sigma quality produce at defect levels below 3.4 defects per (one) million opportunities (DPMO) <sup>[3]</sup>. Six Sigma's implicit goal is to improve all processes to that level of quality or better. Six Sigma is a registered service mark and trademark of Motorola, Inc.<sup>[4]</sup> The story on Six Sigma does have a dark side. According to a Fortune article written by a consulting firm that espouses a competing quality improvement process "of 58 large companies that have announced Six Sigma programs, 52 of them have trailed the S&P 500 since".<sup>[5]</sup> The gist of the article is that Six Sigma is effective at what it is intended to do, but that it is "narrowly designed to fix an existing process" and does not help in "coming up with new products or disruptive technologies."

## Lean

Lean manufacturing is a generic process management philosophy derived mostly from the Toyota Production System (TPS)<sup>[6]</sup> but also from other sources. It is renowned for its focus on reduction of the original Toyota 'seven wastes' in order to improve overall customer value. Lean is often linked with Six Sigma because of that methodology's emphasis on reduction of process variation (or its converse smoothness). Toyota's steady growth from a small player to the most valuable and the biggest car company in the world has focused attention upon how it has achieved this, making "Lean" a hot topic in the first decade of the 21<sup>st</sup> century

For many, Lean is the set of TPS 'tools' that assist in the identification and steady elimination of waste (*muda*), the improvement of quality, and production time and cost reduction. To solve the problem of waste, Lean Manufacturing has several 'tools' at its disposal. These include continuous process improvement (kaizen), the "5 Whys" and mistake-proofing (poka-yoke).

There is a second approach to Lean Manufacturing which is promoted by Toyota in which the focus is upon improving the 'flow' or smoothness of work (thereby steadily eliminating *mura*, unevenness) through the system and not upon 'waste reduction' per se. Techniques to improve flow include production leveling, "pull" production (by means of kanban) and the *Heijunka box*, a visual scheduling tool. Both Lean and TPS can be seen as a loosely connected set of potentially competing principles whose goal is cost reduction by the elimination of waste.<sup>[7]</sup>

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## ISO9000

ISO 9000 is a family of standards for quality management systems. ISO 9000 is maintained by ISO, the International Organization for Standardization and is administered by accreditation and certification bodies. Some of the requirements in ISO 9001 (which is one of the standards in the ISO 9000 family) would include:

- A set of procedures that cover all key processes in the business;
- Monitoring processes to ensure they are effective;
- Keeping adequate records;
- Checking output for defects, with appropriate corrective action where necessary;
- Regularly reviewing individual processes and the quality system itself for effectiveness; and
- Facilitating continual improvement

A company or organization that has been independently audited and certified to be in conformance with ISO 9001 may publicly state that it is "ISO 9001 certified" or "ISO 9001 registered." Certification to an ISO 9000 standard does not guarantee the compliance (and therefore the quality) of end products and services; rather, it certifies that consistent business processes are being applied.

Although the standards originated in manufacturing, they are now employed across a wide range of other types of organizations. In fact, according to ISO in 2004, *"service sectors now account by far for the highest number of ISO 9001:2000 certificates - about 31% of the total"*

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## Malcolm Baldrige NQA

*What is the Malcolm Baldrige National Quality Award?*

The Baldrige Award is given by the President of the United States to businesses—manufacturing and service, small and large—and to education, health care and nonprofit organizations that apply and are judged to be outstanding in seven areas:

- Leadership—Examines how senior executives guide the organization and how the organization addresses its responsibilities to the public and practices good citizenship.
- Strategic planning—Examines how the organization sets strategic directions and how it determines key action plans.
- Customer and market focus—Examines how the organization determines requirements and expectations of customers and markets; builds relationships with customers; and acquires, satisfies, and retains customers.
- Measurement, analysis, and knowledge management—Examines the management, effective use, analysis, and improvement of data and information to support key organization processes and the organization's performance management system.
- Workforce focus—Examines how the organization enables its workforce to develop its full potential and how the workforce is aligned with the organization's objectives.
- Process management—Examines aspects of how key production/delivery and support processes are designed, managed, and improved.
- Results—Examines the organization's performance and improvement in its key business areas: customer satisfaction, financial and marketplace performance, human resources, supplier and partner performance, operational performance, and governance and social responsibility. The category also examines how the organization performs relative to competitors.<sup>[8]</sup>

Congress established the award program in 1987 to recognize U.S. organizations for their achievements in quality and performance and to raise awareness about the importance of quality and performance excellence as a competitive edge. The award is not given for specific products or services. Three awards may be given annually in each of these categories: manufacturing, service, small business, education, healthcare and nonprofit.

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## Conclusion

As you may have discovered, different improvement philosophies accomplish different objectives. Determining what you want to achieve (e.g., quality improvements, consistency in process, cross company improvement) **before** you commit to an improvement philosophy may be the most critical first step in your improvement initiative. Although rooted historically in manufacturing, each of these measurement philosophies has significant applicability across service industries and could be considered as a guiding principle for your next internal improvement effort.

For more detailed information about any of these improvement philosophies contact Rob Himes at [robhimes@himesconsulting.com](mailto:robhimes@himesconsulting.com) or by phone at (312) 961-6656.

Following is an At-A-Glance matrix to compare and contrast the individual improvement philosophies.

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