Best Practices: A Medicine Worse than the Disease?

H. James Harrington

EXECUTIVE SUMMARY

- Many people point to winners of prestigious quality prizes such as the Malcolm Baldrige National Quality Award, the Deming Prize, and the European Quality Award as models of how organizations should be managed.
- What is good for those organizations, however, could prove disastrous for your own.
- This article discusses conclusions drawn from one of the world's largest data bases of international management practices—conclusions that may change the way you think about best practices, benchmarking, and improvement budgets.
- The message? Stop spending big bucks on unsound concepts just because they are called best practices.

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I n 1987, I finished a study of 60 organizations that had set the standards for management practices—among them, Hewlett-Packard, IBM, 3M, Mercedes, and Sony. I wrote a book about this study entitled *The Improvement Process* (Harrington, 1987).

My later efforts focused on companies that had followed the example set by these leaders. To my surprise, the new organizations often failed to obtain the excellent results originally obtained, even though they used the same improvement tools. Moreover, various articles published in the 1990s show that efforts by many organizations to implement total quality management (TQM) had failed. Some authors estimate that 15 percent to 50 percent of all TQM efforts undertaken in the United States had failed.

GUT FEELING VERSUS EVIDENCE

It soon became clear to me that many practices and tools recommended by quality professionals had been accepted based on gut feeling rather than evidence. No statistically sound data base existed to verify which, if any, improvement tools (or combination of

H. James Harrington is principal and international quality advisor for Ernst & Young LLP in San Jose, California.

tools) would improve an organization's performance. In fact, practitioners in the quality field had failed to relate TQM to performance. They simply assumed—often mistakenly—that improved customer satisfaction equaled improved performance.

As it turns out, the best role models were companies in the top 10 percent of *Fortune* magazine's list of the most admired companies, not—as many people had believed—organizations that had won the Malcolm Baldrige Quality Award. In other words, organizations like Rubbermaid, Johnson & Johnson, Microsoft, Coca-Cola, Merck, Intel, and Hewlett-Packard should be our role models, not winners IBM (number 168 on *Fortune* magazine's 1996 list) or General Motors (number 288 on the same list).

To study these concerns, in 1987 the American Society for Quality Control formed a nonprofit research organization called the American Quality Foundation. Robert C. Stempel, former chairman of the board for General Motors, agreed to serve as its chairman.

The International Quality Study

One of the projects the foundation undertook in the early 1990s was to develop an international data base of management practices—a data base large enough to allow statistically sound conclusions to be drawn from the data. Ernst & Young LLP agreed to fund this multimillion-dollar project and also provided the manpower required to collect and analyze the data. The project was called the International Quality Study (IQS).

Conceptual Definition

The conceptual definition of improvement used for the project was as follows: For an organization's performance to improve, improvement must occur in one or more of the following three business measurements, and the improvements must occur without significant negative impact on either of the other two measurements:

- Return on assets (ROA);
- Value added per employee (VAE); and
- Customer satisfaction (CS).

These three measurements evaluate the three critical performance dimensions— profitability, productivity, and quality—for most organizations.

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THE DATA BASE

It soon became clear that developing a comprehensive data base for the IQS would be prohibitively expensive and time consuming, so the scope of the project was limited to only four countries:

- Japan.
- Germany.
- The United States.
- Canada.

The data base was also confined to two manufacturing and two service industries:

- Manufacturing industries included: automotive and computer equipment.
- Service industries included: acute-care hospitals and commercial banks.

Contact the author for more information about the research methodology for the data base.

COLLAPSE OF THE PREVAILING WISDOM

Wisdom is based on our experience, education, and culture. Knowledge, by contrast, is information that is backed by statistically sound research.

There is a big difference between wisdom and knowledge. Wisdom, which can be defined as intuitive beliefs and understanding, is based on our experience, education, and culture. Knowledge, by contrast, is information that is backed by statistically sound research.

As we gain knowledge, the wisdom of the past often proves to be wrong. In short, wisdom reflects our beliefs, while knowledge is based on facts. The IQS finally makes it possible to manage our improvement processes based on facts rather than beliefs.

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Supposed Best Practices

The notion of a universally beneficial set of best practices has proved to be unsound. Many practices that we once considered basic to TQM and the quality movement in general have proved ineffective or even detrimental under some conditions, including:

- Elimination of quality-control inspection.
- The use of natural work teams (a natural work team is made up of a manager and the people who report to him/her, or a group of people who work together like a self-managed team).
- Empowerment of the workforce.
- Benchmarking.
- Not inspecting quality into products or services.

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In fact, these are not principles: They are conceptual beliefs.

Five Real Best Practices

Intensive study of the data shows only five practices to be "universal" best practices—and even then, there is a 5 percent chance that these approaches may not improve your organization's performance. These five best practices are:

- Cycle-time analysis.
- Process value analysis.
- Process simplification.
- Strategic planning.
- Formal supplier certification programs.

Of all the practices we studied, this group of improvement practices showed a beneficial impact on performance, regardless of how organizations were performing to begin with.

Process Improvement Methods

Organizations that make frequent use of practices such as process value analysis, process simplification, and process cycle time analysis tend to perform better than others.

Organizations that make frequent use of practices such as process value analysis, process simplification, and process cycle time analysis tend to perform better than others. While the impact was significant considering all three dimensions of performance—profitability, productivity, and quality—it was strongest for productivity.

Increasing the use of these process improvement practices can be a way of gaining competitive advantage. What's more, these techniques are underutilized. Most organizations say that they "occasionally" use these techniques, whereas the best performers say that they use them "always or almost always." But as the benefits of these techniques become better known, more and more companies are adopting them.

DEPLOYING A STRATEGIC PLAN

Widespread understanding of an organization's strategic plan both inside and outside the organization has proved to be broadly beneficial. The two groups whose understanding showed the strongest impact on performance are middle management (or, in the case of the hospitals in the study, the medical staff) and customers. Understanding of an organization's strategic plan by suppliers was also generally beneficial.

Most organizations said that their middle management "partially" understood the strategic plan. Increasing that understanding from partial to full understanding thus provides a way to gain competitive advantage; doing so has a positive effect on profit, quality, and productivity.

Customers had little understanding—and suppliers had no understanding—of their strategic plan. Making customers fully understand an organization's strategic plan and bringing suppliers to at least a partial understanding can bring widespread benefits.

Organizations generally reported that customers had little understanding—and that suppliers had no understanding—of their strategic plan. Making customers fully understand an organization's strategic plan and bringing suppliers to at least a partial understanding can thus bring widespread benefits.

Supplier Certification Programs

Formal programs to certify suppliers also improve performance, especially in quality and productivity. The study shows that certifying vendors is already standard practice for manufacturers (79 percent of those in the survey) but rare in banks (33 percent) and hospitals (10 percent).

The demonstrable benefits of having a vendor certification program suggest that organizations that do not have such programs should reevaluate their decisions. For those that do, ISO 9000 standards provide an excellent starting point for a supplier certification program.

Table 1. Stratification of Companies by Performance Categories

Performance	Profitability (Return on Assets)	Productivity* (Value-Added/Employee)	Quality (External Customer Satisfaction Index)
Low	Less than 2.0%	Less than $56,500	Low
Medium	2.9%–6.9%	$56,501–$89,000	Medium
High	Over 6.9%	Over $89,000	High

*Based on 1997 dollars.

THE AWAKENING

Imagine the disappointment—after all the books written and the millions of dollars spent over the years on improvement tools—to find that only five have proved universally beneficial. Well, the day was saved when we decided to stratify the data into three groupings: relative performance categories called high, medium, and low performers.

Organizations were classified into these performance categories using the matrix shown in Table 1. Statistical analysis of the data related to each of the stratified groups revealed that there were both positive and negative practices that had previously been considered universal best practices. This analysis also proved that it takes a very different set of activities and beliefs to move a low-performing organization up to a medium-performance level than it does to move a medium-performing organization up to a high-performance level.

We also learned that when an organization moves from the medium-performance level to the high-performance level, the organization must adopt a very different set of activities and beliefs in order to maintain its high level of performance. Organizations that simply continue doing the same things that helped them move from a medium- to a high-performance level soon slip back and become medium performers again.

It always amazes me that so many things are obvious once they are called to my attention. It should be obvious that you have to manage an organization very differently if it is on the verge of bankruptcy than you would if it is setting standards for its industry. Obviously, therefore, an organization's approach to improvement should differ, depending on its current performance. Statistically, this is exactly what the data collected during the study revealed.

THE GOOD, THE BAD, AND THE UGLY

A statistical analysis of the stratified data base showed that a single practice can have the following three impacts on an organization, depending on which performance level the organization finds itself in:

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Exhibit 1. How Different Management Practices Affect Performance (Based on Current Performance)

	Performance Level		
Practice	Low	Medium	High
Statistical process control (SPC)	😐	😐	😐
Department-level teams	☺	😐	☹
Quality-related meetings	😐	☺	😐
Assessing top management on quality	☹	😐	☺
Assessing mid-management on quality	😐	☺	☺
Process benchmarking	☹	☺	☺
Increased training	☹	☺	☹
Get customers' input on new product	☺	☺	☹
Evaluating technology	😐	☺	☹
Measuring improvement efforts	😐	☺	😐

☺ = Good   😐 = Bad   ☹ = Ugly

- ☺ The Good: A practice with a statistically proven positive impact on performance.
- 😐 The Bad: A practice with no statistically proven impact on performance. (In other words, there are probably better uses for an organization's money.)
- ☹ The Ugly: A practice having a statistically proven negative impact on performance.

Exhibit 1 summarizes the effect of the different management practices on an organization's performance based on an existing level of performance.

STATISTICAL PROCESS CONTROL

Statistical process control (SPC) had no impact—either positive or negative—on the performance of organizations in any one of the three performance levels. It was hard for me to accept that SPC was not a statistically sound and universal best practice. It was even harder to believe that it was not a best practice for at least one of the performance categories. After all, I have spent much of my life teaching and praising the merits of SPC. I have personally worked on processes where application of SPC reduced scrap and rework by as much as 80 percent. So how could it be anything else but a best practice?

But if I believe in statistics—and I do—I have to accept the results that the statistical analysis of the data base provides. Perhaps

the impact of SPC on an organization as a whole is so small that it is not reflected in the organization's total performance. If so, maybe we should question whether SPC is the best way to spend our money. Perhaps we should be satisfied that SPC has no statistically proven negative impact on the organization's performance. When all is said and done, I still like SPC as a tool and use it, although much more selectively now.

DEPARTMENT-LEVEL TEAMS

The data indicate that the widespread use of teams and other employee-involvement mechanisms is much more beneficial for low performers than it is for the other two groups. In particular, both department-level and cross-functional teams are strongly associated with improved performance for organizations that have major quality problems.

But increasing participation in teams proves less beneficial for medium-performing organizations. Only two of the practices we studied—department-level teams and problem-solving training—are positively associated with performance for the medium group.

High-performing organizations show less benefit from these practices. Training in problem-solving was the only practice with any positive correlation to performance. Moreover, widespread participation on department-level teams evidently caused worse performance for the high-performance group.

Team interaction can be an effective way for organizations to identify and solve problems—particularly micro-level problems. Since low-performing organizations typically have many such problems, they benefit from management practices that help identify and solve the problems. But high-performing organizations have usually avoided (or have already solved) many micro-level problems. For high-performing organizations, macro-level innovation rather than micro-level problem-solving is critical. Increasing the use of teams seems to contribute little to achieving innovation.

QUALITY-RELATED MEETINGS

Although you might believe that holding meetings to communicate quality objectives and organizational performance should help improve an organization's performance, this is not always true. In an organization that does not have the trust of its employees, enforced participation in quality-related meetings can be a waste of time. Here is the effect of quality-related meetings by performance levels:

- Low-performing organizations: Widespread participation in quality meetings is not helpful at any level of the organization.
- Medium-performing organizations: Widespread participation in quality meetings is generally helpful at all levels.
- High-performing organizations: Quality meetings are helpful only at the nonmanagement level. Holding meetings at the

middle- and upper-management levels has neither a positive nor a negative result, so it is often just a waste of time.

ASSESSMENT CRITERIA

The conventional wisdom is that when people are measured based on some criterion, they will improve their efforts relating to that criterion. This belief has spurred a trend to tie improvement efforts to a compensation formula for all levels of the organization.

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- Low-performing organizations: Low-performing organizations benefit most when evaluations of nonmanagement employees are based on the quality of their work and how well they participate in team activities. Tying the compensation of senior managers to quality and teamwork is evidently not beneficial to the organization—and may even decrease productivity and profits.
- Medium-performing organizations: In medium-performing organizations, tying the compensation of middle management into the quality and teamwork of their organization helps improvement efforts.
- High-performing organizations: In high-performing organizations, tying the compensation of executives and middle management to the overall quality and teamwork of the organization proved very beneficial and a significant factor in maintaining high performance.

PROCESS BENCHMARKING

Process benchmarking has gained considerable favor ever since Xerox won the Malcolm Baldrige Award. Theoretically, benchmarking critical processes should help any organization improve its performance. In fact, it does not. Business process benchmarking provides the best ROI when it is applied to marketing, sales, delivery, and distribution systems:

- Low-performing organizations: Benchmarking of marketing and sales apparently has a negative impact.
- Medium-performing organizations: For the medium-performing group, benchmarking is generally helpful.
- High-performing organizations: Benchmarking can have a strongly positive impact for high-performing organizations; it is a key practice for ensuring that they stay on top.

INCREASED TRAINING

To determine the effect of training, the study examined the average number of hours spent by each employee per year in both general training and quality-specific training. The results were as follows:

- Low-performing organizations: More training is related to better performance. This holds true for both general training and quality-specific training, and also at all levels—senior management, middle management, and nonmanagement employees. Generally, the effects on performance are immediate and have a strong effect on profit.
- Medium-performing organizations: The benefits of more training are less pronounced for medium-performing organizations. Only training for middle managers and nonmanagement employees proved beneficial.
- High-performing organizations: There is apparently no benefit to increased training for high-performing organizations.

Training to Improve Interaction With Clients

The study also examined the frequency and timing of training that "prepares employees with the skills required to effectively interact with customers." The same general patterns described above hold true for this specialized form of training. Training on customer relationships proved most helpful to the low-performing group, regardless of whether the training occurs when employees are first hired, periodically thereafter, or continuously. Thus, for low-performers, customer relationship training is critical. A strong negative correlation was found for low-performing organizations that provided no training in customer relationships.

For the medium-performing group, training on customer relationships had no compelling effect on performance. For the high performers, the expense of continuous training proved unnecessary. Instead, a combination of customer-relationship training when employees are first hired, and then again when it becomes urgent, apparently works best.

The need to develop an infrastructure of skills is so pervasive in low-performing organizations that virtually any increase in training can improve overall performance. Once a base level of skills exists, however, organizations must invest to maintain that base yet align new training with the particular needs of the organization.

IDENTIFYING NEW PRODUCTS

The study examined the practices organizations use to generate ideas for new products and services. It studied both the frequency with which organizations used various sources of information and the relative importance of various internal functions.

The findings show that customer input is important in all three groups, but the nature and scope of the input broadens and becomes more sophisticated as relative performance rises:

- Low-performing organizations: The most important bases for selecting new products and services are straightforward customer requests and customer focus groups. Visiting customers and seeking feedback from current customers also have a positive impact.

- Medium-performing organizations: Heeding customer requests is also important for medium performers, as are internal market research, mail surveys, and personal contact. Suppliers' suggestions can help identify ideas for new products and services.
- High-performing organizations: Customer feedback is helpful for high performers, but external market research provides the new ideas most positively associated with high performance.

The need for direct customer input is so critical to the low-performance group because a clear and graphic understanding of what customers need—and what they do not need—can be the most effective guiding force for developing products and services and for improving the business processes.

High-performing organizations need to maintain and refresh their understanding of customer needs. But to reach even higher performance levels, they must look beyond customer requirements (as customers currently perceive them to be) in order to identify new opportunities in the marketplace.

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PRODUCT DEVELOPMENT

At one time or another, many organizations have had the experience of correctly identifying customer requirements, then failing to develop products and services that succeeded in the marketplace. The study examined how frequently various techniques were used to translate customer expectations into the design specifications for a new product or service.

Organizations in all the industries surveyed plan to dramatically increase the use of cross-functional teams (including customers) to translate requirements into design specifications. The analysis of best practices, however, suggests that this practice is not beneficial across all of the performance levels:

- Low-performing organizations: Using cross-functional teams that include customers seems to work best for low-performing organizations. Relying on the development department alone to create design specifications had a negative impact on performance.
- Medium-performing organizations: Unlike the low-performing group, relying on the development department alone proved beneficial for medium-performing organizations. No form of cross-functional team proved beneficial.
- High-performing organizations: In the high-level group, cross-functional teams were beneficial, but only when they excluded customers.

The core issue is how well an organization understands customer needs. Organizations that do not thoroughly understand all dimen-

sions of customer requirements can benefit significantly from having direct customer participation in the development of specifications.

But as organizations gain in their understanding of customers, they no longer need to bring the customer's voice into the development process. In fact, as development efforts in high-performing organizations focus increasingly on innovative new products, direct participation by customers can limit development efforts, especially if the customer representation does not represent a broad enough view of the potential marketplace.

EFFECT OF USING TECHNOLOGY

After organizations implement new technology, they often choose to formally evaluate the effect of the technology. The study asked how frequently organizations evaluate the effects of technology in areas such as product or service quality, cost of operations, investment requirements, and environmental impact:

- Low-performing organizations: Evaluating the effectiveness of the technologies used apparently had no effect on the performance of low-performing organizations.
- Medium-performing organizations: Medium performers benefit most from formal evaluations of technologies.
- High-performing organizations: In high-performing organizations, evaluating technologies evidently had a negative impact on performance.

MEASURING PROCESS IMPROVEMENT EFFORTS

Organizations around the world have spent vast sums of money to develop measurement systems that will verify the ROI of their improvement processes. The impact of these activities has produced varying results:

- Low-performing organizations: No compelling benefit was apparent from efforts of low-performing organizations to measure the effectiveness of process improvements.
- Medium-performing organizations: Medium performers seem to benefit most from measurement of improvement processes. Within this group, there is a beneficial correlation with measuring reduced cycle time, reduced cost, less process variation, and fewer customer complaints.
- High-performing organizations: No compelling benefit was found to measuring improvement processes.

The benefits of solving problems in low-performing organizations are often so obvious that measuring them is unnecessary. The resources needed for such detailed measurement could be better used to identify and solve other problems.

But organizations that are already performing at least at a medium level can benefit greatly from measuring and then using information to further refine the business. As organizations begin to

move from medium- to high-performing levels, however, further refinement has limited potential for improving the business. New ways of doing business—rather than refinements of the old ways—are often needed to propel these already high-performing organizations to yet higher levels of performance.

WHAT MAKES ORGANIZATIONS PERFORM BETTER

Now that you have been alerted to some of the so-called best practices that can get you into trouble, let us consider some of the practices that keep you out of trouble. When an organization is considering undertaking a process improvement effort, it needs to look at practices that will have an immediate impact and those that will have delayed impact. As a result, we have divided the positive practices into the following categories:

- Practices that have an immediate impact.
- Practices that have a delayed impact.

All organizations need to consider three other factors in designing their improvement processes:

- People.
- Process.
- Strategy and technology.

To help you design your improvement process, we will present the positive performance practices divided into the three levels of organizational performance—low, medium, and high. The charts in Exhibit 2 subdivide the groups into practices under three factors: people, process, and strategy and technology.

BEST PRACTICES THAT CAN TROUBLE

An organization should focus on different things, depending on its level of development. Using the same three categories of performance (low, medium, and high), let us see which management practices could cause trouble.

Low-Performing Organizations

Low-performing organizations have to concentrate on the basics. They should focus on a few critical areas to improve customer relationships. They should resist the temptation of trying to concentrate on too much and change too fast. Paying attention to fundamental processes like customer service, operations, and cost controls is essential. These organizations should build and strengthen their infrastructures to build for the future.

Here is a list of management practices that could get low-performing organizations into trouble:

Exhibit 2. Best Practices That Work for Different Types of Organizations

People Impact		
Type of Organization	**Immediate-Impact Practices**	**Delayed-Impact Practices**
Low	• Emphasize teams—both departmental and cross-functional • Provide continuous training in customer relationships • Promote participation in problem-solving training and suggestion systems • Increase training—in both general and specific topics—for all levels of employees	• Emphasize team performance and quality when assessing nonmanagement employees • Empower employees responsible for after-sales problem resolution
Medium	• Promote department-level improvement teams • Train in problem-solving and other specialized topics	• Emphasize team and quality in mid-management evaluations • Empower after-sales service people
High	• Provide customer-relationship training when new employees are first hired • Emphasize quality and teamwork when assessing senior management • Encourage widespread participation in quality meetings among nonmanagement employees	• Empower employees who interact with customers

Process Impact		
Type of Organization	**Immediate-Impact Practices**	**Delayed-Impact Practices**
Low	• Use cross-functional teams that use input from customers to develop design specifications for new products or services • Emphasize the role of failure analysis for quality assurance personnel • Make heavy use of process value analysis • Visit customers to identify new products and services • Use internal customer complaint systems for new product or service ideas	• Emphasize face-to-face visits with customers to get their feedback and follow-up
Medium	• Listen to supplier suggestions about new products or services • Select suppliers through a combination of certification and competitive bidding • Emphasize the role of "enforcement" for quality assurance • Use process simplification frequently	• Use cycle-time analysis regularly • Emphasize customer requests and internal market research to identify new products
High	• Use world-class benchmarking information to identify new products or services • Increase process simplification and cycle-time analysis • Benchmark marketing and service delivery • Communicate the strategic plan to customers and suppliers • Conduct after-sales service to build customer loyalty and to differentiate yourself from your competitors	• Use supplier suggestions and a customer complaint system when identifying new products • Increase emphasis on technology in supplier selection • In identifying new products, emphasize external sources • Form strategic partnerships with vendors

Exhibit 2. (Continued)

Strategy and Technology Impact		
Type of Organization	Immediate-Impact Practices	Delayed-Impact Practices
Low	• Emphasize cost reduction when acquiring new technology • Use public domain as a source for process technology • Make heavy use of customer-satisfaction measures in your strategic-planning process • Focus your quality strategy on "building it in" and "inspecting it in"	• Use public domain as a source for product technology • Emphasize "designing it in" as your quality strategy
Medium	• Make regular and consistent measurements of progress • Provide information to mid-management about the business consequences of quality performance • Emphasize the creation of more products in expansion plans • Emphasize quality as key to your reputation	• Measure process improvements • Emphasize reliability and responsiveness as keys to your reputation
High	• Emphasize competitor-comparison measures and customer-satisfaction measures when setting plans • Emphasize quality, reliability, and responsiveness as keys to your reputation • Expand geographically	• Focus innovation efforts on ancillary services • Focus innovation efforts on products and services • Emphasize performance and adaptability in your base product or service • Emphasize accessibility in performance and adaptability in your ancillary services

- Emphasizing quality when assessing senior managers.
- Encouraging widespread participation in quality meetings.
- Using world-class benchmarking.
- Emphasizing technological forecasting or competitor activities to identify new products.
- Emphasizing technology considerations for selecting vendors.
- Relying on surveys to obtain feedback from customers.
- Regularly using business partners as a source of process technology.
- Emphasizing empowerment.
- Opening planning on a widespread basis throughout the organization.
- Developing process technology internally.
- Using geographical expansion as the strategy for future growth.
- Removing quality control inspection.
- Benchmarking marketing and sales processes.

Medium-Performing Organizations

Medium-performing organizations need to focus on improving their processes and establishing good measurement systems. Hold-

ing quality assurance accountable for enforcing quality standards is beneficial for these organizations. Focusing on applying process improvement efforts to critical processes helps these organizations improve quality significantly while also reducing costs and cycle time.

These organizations should increase their communication related to the importance of quality through widespread participation of employees in meetings devoted to quality issues. Developing and communicating mission and vision statements provides increased trust and direction for the organization.

Here is a list of management practices that could get medium-performing organizations into trouble:

- Emphasizing quality and team performance when assessing senior management.
- Increasing the hours of training in general topics.
- Selecting suppliers based on their general reputation.
- Using cross-functional teams or teams with customers on them to create design specifications.
- Shifting primary responsibilities for compliance with quality standards away from the quality assurance function.
- Downsizing the business by offering fewer services.
- Focusing on cost reduction to make decisions about acquiring technologies.

High-Performing Organizations

To stay ahead of the competition, high-performing organizations must reach out and be able to predict what the competition will do and what future customer requirements will be. These organizations need to focus on developing advanced technologies and empowering their employees to increase their personal creativity.

Adaptability and customization are important discriminating factors that allow high-performing organizations to keep meeting and exceeding customer expectations. Process improvement tools like benchmarking and business process improvement become essential elements in their continuing quest for increased quality, productivity, and profitability.

Here is a list of management practices that could get high-performing organizations into trouble:

- Increasing participation in department-level improvement teams.
- Increasing hours of training in general topics.
- Making education and championing a primary role for the quality assurance function.
- Focusing technology on production processes.
- Relying on customer surveys as a primary input for improvement efforts.
- Using cross-functional teams that include customers to create design specifications.

SUMMARY

I have been surprised in our research to date at the scant impact that cultural differences between the four countries have had on best practices. Our analysis to date indicates that the personality of the key management leaders in the organization and the business practices they employ have a bigger impact on performance than where the organization has its headquarters.

One thing we can say for sure is that there is no hypothetical or universal combination of best practices applicable to all organizations. Different management practices have to be deployed to optimize each organization's overall performance, because each organization is different in at least the following ways:

- Personalities of their key executives.
- Their customers.
- Their competitors.
- Their products.
- Their past experience.

In short, there is simply no one right answer for all organizations. ◆

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