Benchmarking has become a powerful technique for continuous improvement. It is being adopted in many disciplines and has drawn attention from many scholars. Plentiful studies have been done on its costs and benefits.

However, the definition, classification and application of benchmarking still confuse businesses that are trying to implement benchmarking for the first time. Let's clarify such confusions by providing background information on benchmarking, analyzing examples of businesses that have demonstrated excellence in benchmarking, and defining useful benchmarking models. The goal is for management practitioners to learn what works and avoid unnecessary mistakes.

Benchmarking background

Benchmarking has been defined in various ways. The formal definition from the *Merriam-Webster Dictionary* is "a point of reference from which measurements may be made."

The word, however, carried a more operational meaning when it was first introduced in an organizational setting by Xerox. Benchmarking is the process of identifying and learning industry best practices and applying the knowledge to one's process to improve performance. The American Productivity and Quality Center defined benchmarking in a more philosophical sense as "being humble enough to admit that someone else is better at something and wise enough to learn how to match, or even surpass them at it."

Benchmarking can be applied to any business processes.

Benchmarking can be applied to any business processes. The general benchmarking process involves first identifying the best practices, either internally or externally, then comparing

Excellence in benchmarking

BY OWEN OU AND BRIAN H. KLEINER

EXECUTIVE SUMMARY

Benchmarking is an established management tool for process and performance improvement. Case studies involving three U.S. organizations, Xerox, Motorola and the Internal Revenue Service, show how this venerable tool can be effective on a global scale.

one's performance to the best practices using metrics such as time, quality and cost. Finally, the organizations should address the performance gaps found by either adopting best practices or creating new programs to improve the current processes.

Benchmarking will help form alliances between partners to share information and processes, alliances that, according to *The Performance-Based Management Handbook*, will further inspire innovation and ultimately improve performance.

The need to improve performance has been a constant theme throughout history. In fact, some examples of performance improvement that resembled benchmarking date from the 1800s when American entrepreneur Francis Lowell studied the manufacturing techniques of the British textile industry. Great Britain was the industry leader back then, and, according to the story told in *Benchmarking for Best Practices: Winning Through Innovative Adaptation*, Lowell built plants in the U.S. that utilized the British techniques.

Modern benchmarking was started by Xerox Corp. in the late 1970s. The largest copier manufacturer then initiated an effort to compare itself to competitors in terms of unit manufacturing costs and copier features. Such effort revealed that Xerox was lagging behind its Japanese competitors to a large degree in many areas. Xerox then implemented a strategy called "leadership through quality" to recapture its leading position in the market, Mohamed Zairi and Paul Leonard wrote in *Practical Benchmarking: A Complete Guide*.

Modern benchmarking was started by Xerox Corp. in the late 1970s.

Benchmarking has been widely adopted since then, as a 1990 study showed that 70 percent of large U.S. corporations have benchmarking programs in place. The number can only be bigger today.

The ultimate objective of benchmarking is performance improvement, but what is the best way for organizations to achieve such efficiencies? Benchmarking results in various progresses that work together to produce performance improvement. These progresses include identification of opportunities, realistic goal setting, discovery of strengths and weaknesses, and prioritization of resources.

With benchmarking, internal focus is shifted to external and competitive focus. Learning and innovation is spurred. Gut feelings are replaced by fact-based decisions. Eventually, companies transform from industry stragglers to industry leaders.

Being the popular tool it is, benchmarking has suffered a list of misconceptions. It is important and helpful to understand these misconceptions and steer away from them when implementing benchmarking. Some common false impressions of benchmarking are from the *Benchmarking Handbook: Step by Step Instructions*:

- Benchmarking is all about numbers.
- Benchmarking is copying.
- Benchmarking is spying or espionage.
- Benchmarking is a one-time event.

A main point of confusion arises from the classification of benchmarking. Understanding the different types of benchmarking and choosing the type that best suits the company is vital to successful benchmarking projects.

Many researchers have formulated their own classification systems of benchmarking. Although an absolute consensus has not been established, most classification systems share some key concepts. The comparison target and the content for comparison are the two main properties used in defining types of benchmarking.

A sample classification system can be seen in Figure 1.

BENCHMARKING BY TYPE

Figure 1. These classifications of benchmarking come from *The Benchmarking Book*, published by the American Management Association.

Classification	Type	Definition
Comparison target	Internal benchmarking	Comparing within one organization
	Competitor benchmarking	Comparing with competitors
	Industry benchmarking	Comparing with firms in the same industry
	Generic benchmarking	Comparing with companies regardless of industry
Content for comparison	Process benchmarking	Focus on work processes
	Functional benchmarking	Compare specific business functions
	Strategic benchmarking	Focus on strategic and not operational choices

Benchmarking at Xerox

Most scholars agreed that Xerox was the pioneer that started the systematic approach of benchmarking. The enormous financial and operational improvement Xerox enjoyed was what made benchmarking so attractive to other organizations. By studying the Xerox success story, one can learn the whole process of benchmarking from the preparation phase to the maturity phase.

Originally named the Haloid Co., it changed its name to the Xerox Corp. in 1961 and enjoyed record revenue growth year after year in the 1960s. This is thanks to the development of its copying machine that utilized the unique photographic technology invented by Chester Carlson.

However, around the late 1970s and early 1980s, competitors from both the U.S. and Japan started to consume Xerox's market share, and Xerox failed to cope with the problem in a timely manner. The competitors' products had either better quality or lower price or both. Xerox needed a way to regain competitiveness, the IBS Center for Management Research wrote in "Xerox – The Benchmarking Story."

In 1982, David Kearns became CEO of Xerox, and he initiated the famous "leadership through quality," which essentially was Xerox's form of benchmarking. This program aimed to reduce costs and place emphasis on quality control. Through this program, Xerox recovered the lost market share and survived the competitive crisis. It went on to become the leading example of successful implementation of benchmarking, researchers Larisa Dragolea and Denisa Cotîrlea wrote in 2009.

Under the new program, Xerox compared itself against Japanese competitors and found that "it took twice as long as the Japanese competitors to bring a product to market, five times the number of engineers, four times the number of design changes, and three times the design costs," the IBS Center for Management Research reported.

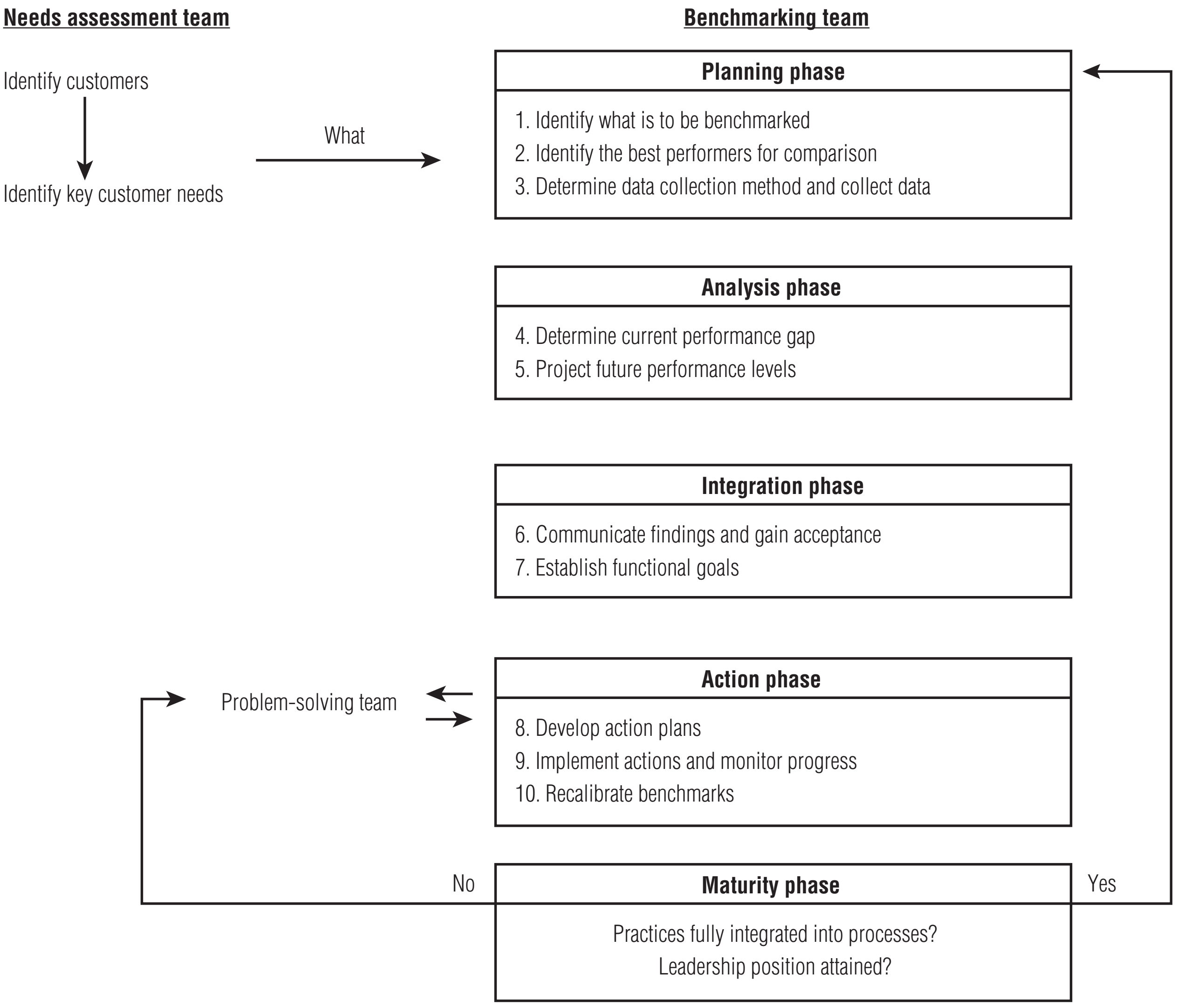
The enormous financial and operational improvement Xerox enjoyed was what made benchmarking so attractive to other organizations.

The initial results of the benchmarking showed that Xerox needed to increase its productivity by 18 percent annually to keep pace with the competitors. The executives at Xerox realized the severity of the issue and dedicated a large amount of resources in developing Xerox's own benchmarking model, which included five stages and 19 steps. Figure 2 shows the details of the Xerox benchmarking model, which are explained below:

- **Planning:** This phase involves identifying the process to be benchmarked, finding the competitor or internal department that holds the best practice for the particular process, determining data indicators and method for data collection, and collecting data.
- **Analysis:** This phase involves identifying performance gaps between the organization and the benchmarking

THE XEROX WAY

Figure 2. Xerox's benchmarking model has five phases and 10 steps. Source: *Benchmarking: A General Reading for Management Practitioners,* MCB University Press



target and forecasting future performance levels for both companies.

- **Integration:** During this phase the benchmark team should present and communicate the findings to management to commit resources to improvement projects and set goals for these projects.
- **Action:** This phase entails developing action steps for the improvement projects, carrying out the action items, reviewing results, and adjusting the improvement process if goals are not met.
- **Maturity:** In this phase the benchmarking team reviews the results from the process that underwent benchmarking and re-evaluates the company's position versus its competitors. If the desired industry leader position is acquired, benchmarking efforts can be started on a different process. Otherwise, the team should go back to the action phase and adjust the improvement program.

Xerox also fully exploited the concept of generic benchmarking. It benchmarked L.L. Bean, a sporting goods company, for their warehouse procedures, partnered with American Express to learn their billing and collection process and studied Florida Power and Light's quality process. In total, Xerox benchmarked over 200 performance areas during the 1980s, Christopher Bogan and Michael English wrote in *Benchmarking for Best Practices: Winning Through Innovative Adaptation*.

> Xerox benchmarked over 200 performance areas during the 1980s.

The benefit Xerox received through benchmarking was enormous. It improved customer satisfaction by 40 percent, reduced defects by 90 percent and reduced labor costs by 30 percent. In 1992, Xerox became the first company to win all three prestigious quality awards, the Deming Award, the Malcolm Baldridge National Quality Award and the European Quality Award.

Benchmarking at Motorola

Motorola has been another leader in benchmarking and quality improvement.

During the 1980s, this major U.S. electronics manufacturer was facing intense competition from its Japanese counterparts. Preliminary benchmarking efforts revealed that Motorola lagged heavily behind its competitors in quality. The competitors' products were sometimes 100 times better. In addition, projections of future customer expectations further reinforced the need for accelerated improvement through benchmarking.

The subsequent benchmarking efforts at Motorola identified and analyzed areas that the Japanese competitors were doing well and called for incorporating these best practices into Motorola's own processes. As part of the action steps determined by benchmarking, Motorola adopted the concept of total quality control and developed Six Sigma, a set of tools and techniques for process improvement, Sverker Alänge wrote in the case study "Total Quality Management as a Tool for Organizational Change: The Case of Motorola."

Motorola's benchmarking programs also prompted its internal research and innovation effort as it strived to become the industry leader. This led to the development of personal cellular phones in the 1980s, the beginning of the cellular age.

One characteristic of the Motorola benchmarking model was its simplicity. Compared to the 10-step Xerox model, the Motorola process only contains five steps:

1. Decide process for benchmarking.
2. Find companies to benchmark.
3. Gather data.
4. Analyze data and translate results into action plans.
5. Calibrate the plans as needed and restart the process.

This simplified model demonstrated the concentration Motorola placed on efficiency and generality. It also was believed to be easier for first-time benchmarking project teams to experiment and apply. What Motorola did well was that it committed massive efforts to materialize its groundbreaking ideas such as Six Sigma. The CEO constantly communicated the importance of successfully implementing improvement programs as the key to Motorola's revival, Alänge wrote. Motorola also used the concept of generic benchmarking well by learning Domino Pizza's order and delivery process to reduce cycle time between order receipt and product delivery.

Benchmarking at the IRS

It may not be surprising to learn that benchmarking is broadly accepted in the public sector. The Internal Revenue Service was one of the first government agencies to implement benchmarking to help improve its information system.

Executives at the IRS learned benchmarking examples and decided to hire consultants to determine what needed benchmarking. Then, IRS officials asked their internal managers to perform data analysis and devise action plans. It eventually settled on using a method similar to the Xerox model, according to Bogan and English.

The IRS benchmarked a total of four areas. "These included software measurement, picking and packing in form distribution centers, personnel recruitment and retention, and assistance at walk-in taxpayer sites. As a best-in-class performer, the Ogden, Utah, site was emulated for its recognized service record," Joseph Blakeman wrote in "Benchmarking: Definitions and Overview" for the Center for Urban Transportation Studies.

The results were positive, and the IRS had since embraced benchmarking as one of its standard strategies for service improvement. According to the 2005-2009 IRS Strategic Plan, performance benchmarking was the intended long-term solution for addressing systemic development and delivery issues.

There are intrinsic differences between benchmarking in the private sector and benchmarking in the government. One key difference is the public scrutiny government agencies have to endure when implementing benchmarking. Benchmarking in the public sector is sometimes perceived as a waste of taxpayer dollars. To alleviate this issue, the government can seek public input during the planning phase to avoid any unnecessary expenses and make a case for the additional revenue benchmarking can generate if implemented successfully, Blakeman concluded.

Motorola ... committed massive efforts to materialize its groundbreaking ideas such as Six Sigma.

Implementation tips

Reviewing all the success stories discussed above, some commonalities exist in the main components of effective benchmarking projects. By paying close attention to these components, companies can increase the chances of receiving favorable outcomes from benchmarking projects.

First, a well-designed benchmarking team is important. This team should consist of personnel with expertise in different areas to achieve maximum diversity of ideas.

Second, the whole organization should be committed to supporting the benchmarking effort, from top executives to bottom level employees. This helps stimulate maximum efficiency in carrying out action plans.

Third, when determining areas for benchmarking, the focus should be placed on critical success factors of the company. For example, areas that are crucial to the company's sales, customer satisfaction and time-to-market should hold higher priorities.

Last, substantial research should be done when determining benchmarking partners. Most likely, the areas determined for benchmarking will require multiple partners, as no one company can have all the best practices. The process is meant to be time-consuming, and companies should not rush into any decisions.

In short, the planning phase is the most important phase of the benchmarking process. Well-executed planning phase action steps will build a solid foundation for success for the benchmarking project. ❖