SECTION 12
BENCHMARKING

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This section defines benchmarking and outlines the 10-step benchmarking process as developed in Camp (1989 and 1994). It summarizes the activities of typical benchmarking teams, including their objectives, tasks, and responsibilities.

INTRODUCTION

The hottest and least understood new term in the quality field is "benchmarking." Xerox does it. Ford does it. GTE, AT&T, DEC, TI, duPont, HP, J&J, IBM, and Motorola do it. Just what is it?

Benchmarking is an ongoing investigation and learning experience. It ensures that the best practices are uncovered, adopted, and implemented. Benchmarking is a process of industrial research that enables managers to perform company-to-company comparisons of processes and practices to identify the "best of the best" and to attain a level of superiority or competitive advantage.

Benchmarking is a method of establishing performance goals and quality improvement projects based on industry best practices. It is one of the most exciting new tools in the quality field. Searching out and emulating the best can fuel the motivation of everyone involved, often producing breakthrough results.

The Japanese word *dantotsu*—striving to be the best of the best—captures the essence of benchmarking. It is a positive, proactive process to change operations in a structured fashion to achieve superior performance. The purpose of benchmarking is to gain competitive advantage.

Benchmarking: Definition. The formal definition of benchmarking is "The continuous process of measuring products, services, and practices against the company's toughest competitors or those companies renowned as industry leaders." (Camp 1994).

Benchmarking Objectives. The purpose of benchmarking is derived primarily from the need to establish credible goals and pursue continuous improvement. It is a direction-setting process, but more important, it is a means by which the practices needed to reach new goals are discovered and understood.

Benchmarking legitimizes goals based on an external orientation instead of extrapolating from internal practices and past trends. Because the external environment changes so rapidly, goal setting, which is internally focused, often fails to meet what customers expect from their suppliers.

Customer expectations are driven by the standards set by the best suppliers in the industry as well as by great experiences with suppliers in other industries. Thus, the ultimate benefit of benchmarking is to help achieve the leadership performance levels that fully satisfy these ever-increasing customer expectations.

Benchmarking is an important ingredient in strategic planning and operational improvement. To remain competitive, long-range strategies require organizations to adapt continuously to the changing marketplace. To energize and motivate its people, an organization must:

- Establish that there is a need for change
- Identify what should be changed
- Create a picture of how the organization should look after the change

Benchmarking achieves all three. By identifying gaps between the organization and the competition, benchmarking establishes that there is a need. By helping understand how industry leaders do things, benchmarking helps identify what must be changed. And by showing what is possible and what other companies have done, benchmarking creates a picture of how the organization should look after the change.

BENCHMARKING FUNDAMENTALS

Embarking on a benchmarking activity requires acceptance of the following fundamentals:

- Know the operation. Assess strengths and weaknesses. This should involve documentation of work process steps and practices as well as a definition of the critical performance measurements used.
- Know industry leaders and competitors. Capabilities can be differentiated only by knowing the strengths and weaknesses of the leaders.
- Incorporate the best and gain superiority. Adapt and integrate these best practices to achieve a leadership position.

Practices and Performance Levels. Benchmarking can be divided into two parts: practices and performance levels. From experience, most managers now understand that benchmarking should first focus on industry best practices. The performance levels that result from these practices can be analyzed and synthesized later. Having identified the best practices of several companies, the lessons learned can be integrated to create world-class work processes. At that stage, the expected performance from these work processes can be determined so that service levels that are superior to the best of the competitors' can be delivered.

When preparing for benchmarking, it is important to engage line management so that the findings are understood and accepted and result in a commitment to take action. This requires concerted management involvement and carefully designed communications to the organization that must implement the action plans.

THE 10-STEP BENCHMARKING PROCESS

The 10-step process for conducting a benchmarking investigation consists of the following five essential phases (see Figure 12.1).

Phase 1: Planning

- Decide what to benchmark. All functions have a product or output. These are priority candidates to benchmark for opportunities to improve performance.
- Identify whom to benchmark. World-class leadership companies or functions with superior work practices, wherever they exist, are the appropriate comparisons.
- Plan the investigation, and conduct it. Collect data sources. A wide array of sources exists, and a good starting point is a business library. An electronic search of recently published information on an area of interest can be requested. Begin collecting. Observe best practices.

Phase 2: Analysis

- It is important to have a full understanding of internal business processes before comparing them to external organizations. After this, examine the best practices of other organizations. Then measure the gap.
- Project the future performance levels. Comparing the performance levels provides an objective basis on which to act and helps to determine how to achieve a performance edge.

Phase 3: Integration

- Redefine goals and incorporate them into the planning process.
- Communicate benchmarking findings and gain acceptance from upper management.
- Revise performance goals.
- Remember, the competition will not stand still while organizations improve. Thus, goals that reflect projected improvement are necessary.
- On the basis of the benchmarking findings, the targets and strategies should be integrated into business plans and operational reviews and updated as needed.

Phase 4: Action

- Best practices are implemented and periodically recalibrated as needed.
- Develop and implement action plans.

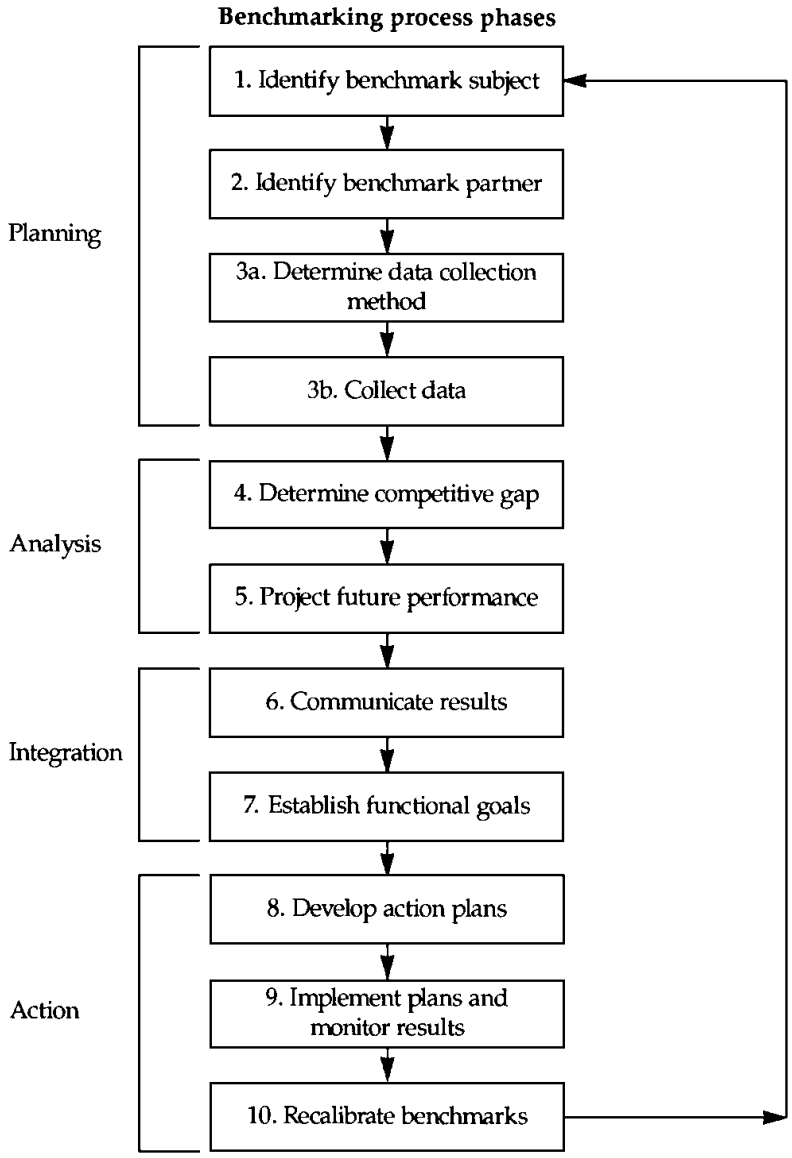

FIGURE 12.1 The formal 10-step benchmarking process. (*Quality Resources, a division of The Kraus Organization Limited, White Plains, NY, through ASQC Quarterly Press.)*

- Monitor progress.
- Recalibrate the benchmarks.

Phase 5: Maturity

- Determine when a leadership position is attained. Maturity is achieved when best practices are incorporated in all business processes; when benchmarking becomes a standard part of guiding work; and when performance levels are continually improving toward a leadership position. Assess benchmarking as an ongoing process.

Benchmarking Triggers. Events that cause a benchmarking project to be initiated usually fall into one of three groups: problem, innovation, or policy.

Problem. If a crisis occurs within an organization, such as a major cost overrun or a major customer threatening to cancel an existing contract, the topic for an improvement project may be apparent.

Innovation. If the organization becomes aware of some innovative technology, practice, or process employed by another organization, this information may well cause an organization to commission a benchmarking study.

Policy. If the organization does not have a significant problem or need to understand an innovative practice, then selecting a benchmarking project may be difficult. This is especially true for an organization employing a total quality management (TQM) philosophy. However, a well-established quality management effort includes a strategic planning process. In organizations with such efforts, it is common for one of the outputs of the planning process to be a list of nominations for appropriate benchmarking projects.

Benchmarking Teams. Benchmarking is conducted by teams consisting of individuals with direct operational experience and knowledge of the process. Members should possess analytical, research, process documentation, and team facilitation skills. These requirements favor candidates with engineering or technical backgrounds, and those with research experience. Benchmarking teams are typically commissioned by the process champion. Teams rarely function effectively if they consist of more than 9 to 12 members. Team size of 3 to 6 is preferred. Large teams can be considered but will most likely break down into small subgroups to do their work.

STEP 1: WHAT TO BENCHMARK

The first step in determining what to benchmark is identifying the product or output of the business process or function. Fundamental to this is the development of a clear mission statement detailing the reason for the organization's existence, including key outputs expected by its customers and critical to fulfilling the mission successfully. Next, each function's broad purposes should be broken down into specific outputs to be benchmarked. Outputs should be documented to a level of detail necessary for analyses of key tasks, handoffs, and both in-process and end results measurements, and for quality, cost, and delivery analyses.

One good way to determine which outputs are most in need of benchmarking is to pose a set of questions that might reveal current issues facing the function. Questions might focus on customer care (including service), cost, or perception of product offerings. Another way to identify key outputs is to convert the problems, issues, and challenges faced by the function into problem statements and then to develop these into a cause-and-effect Ishikawa diagram. The causals in the diagram are candidates for benchmarking.

Successfully completing a benchmarking project is dependent on selecting a worthwhile topic. It should not be too large, too trivial, or one that would not secure a performance advantage. To avoid these problems, the topic should be selected after some analysis to ensure that the organization's resources are being justifiably expended. The intent of step 1 is to confirm a topic already selected, to narrow or broaden the scope of a project, or to select a topic that could best contribute to the organization's success.

If resources are constrained, consideration should be given to improving the earliest possible area in a process since, if that is improved, there may be a beneficial effect on all subsequent activities.

The candidate process should be tested for reasonableness by asking such questions as: Is this the area customers complain about the most? Are there areas with major cost overruns that need attention? Is there something that if not fixed immediately will be affected in the marketplace?

Documentation. The team must describe how the work is currently performed by preparing detailed flowcharts. This is essential because it helps the team gain consensus on how the work is

actually performed, the time it takes to perform the work, the cost, and the errors created in the current work flow. This understanding is essential because comparison to a superior system will not reveal deficiencies in the current system unless such understanding and documentation exists.

A brief, two- or three-page, description of the benchmarking project should be prepared and circulated among sponsors, managers, stakeholders, and other interested parties. This document captures all the thinking that has gone into selecting the project, the potential resources required, and the expected outcome. As more information is gathered and the team completes other steps in the 10-step benchmarking model, the project description can be updated and used as a means of keeping sponsors informed.

STEP 2: WHOM TO BENCHMARK

The difficulty is in identifying which leading-edge companies possess processes that truly have best practices. Determining whom to benchmark against is a search process that starts with consideration of, in broad terms, an operation's primary competitors and then extends to leading companies that are not competitors. While the process is one of comparison, the goal is to identify and understand where things done differently can produce breakthrough results.

A successful approach encompasses internal, competitive, and functional benchmarking. *Internal* benchmarking is the comparison of practices among similar operations within a firm. One distinct benefit of internal benchmarking is that it forces documentation and allows easy comparison of the work process to uncover the best practices. *Competitive* benchmarking is the comparison to the best direct competitors, and serves to prevent complacency. However, it is *functional* benchmarking—the comparison of functional activities, even in dissimilar industries—that holds the most potential for discovering and stimulating innovative practices.

Internal Benchmarking. Within every organization exists another department that may be performing identical or similar work to that of the benchmarking team. If this is true, then the first benchmarking partners may exist within the same organization. Technical training, for example, usually is not the only training activity within an organization. Typically there is also management training, sales training, computer skills training, diversity training, and specific job training.

Competitive Benchmarking. Benchmarking competitors is an essential part of any external comparison. However, benchmarking is not industrial espionage, but industrial information gathering, and so a few cautions are needed to study competition in an ethical and legal manner. One approach is to collect information without directly contacting the competitor. So much information exists in the public domain that it may be possible to determine a competitor's best practices without having to talk directly to that competitor. Some of these public sources are discussed in step 3, and detailed search techniques are available in Camp (1994).

If a direct benchmarking exchange with a competitor is possible, the technique to avoid legal and ethical problems in comparing best practices is to focus on *process* information and not company data. For example, it is possible to discuss the rate of billing errors, cost or cycle time per thousand invoices, or to compare process steps or computer technology employed. It is not appropriate to ask for or discuss the number of products sold per invoice, the revenue value of each invoice, or the number of such invoices per accounting period. The benchmarking team should avoid asking for information that its own organization would be unwilling to provide.

Competitors sometimes minimize the difficulties of benchmarking other industry members by cooperating in a joint study conducted by a third party. In this case, a consultant may be retained by a group of competitors to collect and analyze data, protecting the sources of information, and publishing industry-wide information from the participants.

Formal benchmarking has been ethically managed since the early 1980s, in part because of the existence of the Benchmarking Code of Contact developed by the International Benchmarking Clearing House (Camp 1989). This code describes the nature of a benchmarking exchange that

should take place between partners, and covers such items as the legality, exchange, confidentiality, and use of information.

Functional Benchmarking and World-Class Leaders. A benchmarking study should not be restricted to one industry when an organization in a different industry is achieving superior results in a similar function. This source of best practices is where the large process gains are possible. The search here is not restricted to a common application, but to a method or practice within a process that can be adopted and adapted to a specific process.

For example, a low-cost airline in southwest Texas undertook a project to maximize its revenue by benchmarking the time a plane spends on the ground. After all, revenues are generated only when the plane is in the air. The project was to determine how ground crews could safely clean and service the aircraft, refuel it, change tires, and provide food service in the most efficient manner to minimize ground time. The benchmarking team decided to meet with individuals who have perfected such techniques—race pit crews at the Indianapolis Speedway. Racing professionals certainly are experts at these very practices because they are faced with the same issues, and have developed an expertise in rapid service.

Other examples of functional and innovative benchmarking are found at Xerox. It has worked with some of America's largest corporations including the following: American Express (billing and collection); American Hospital Supply (automated inventory control); Ford Motor Company (manufacturing floor layout); IBM and General Electric (customer service support centers); L. L. Bean, Hershey Foods, and Mary Kay Cosmetics (warehousing and distribution); Westinghouse (National Quality Award application process, warehouse controls, bar coding); and Florida Power and Light (quality process).

Having identified the sources of best practices, they should now be used in the team's specific benchmarking project. That is, for each major portion of the targeted process to be benchmarked, the team needs to identify who are comparative organizations internally, competitively, functionally, and innovatively. Typically, a team can brainstorm about 20 internal and competitive organizations to benchmark. Functional and innovative comparisons require more work to identify. Part of the work begun here will be completed in step 3A. The key point here is that the team should try to identify at least 100 prospective benchmarking partners from which it will select three or four to study in detail. Limiting the candidates at the outset may result in selecting inappropriate partners later.

Partnering. The organization with which one would benchmark is known as a "partner." The concept of partnership is important because it conveys the notion that there must be something in a benchmarking exchange for both parties. There may a common interest in a particular process, or the benchmarking partner may ask for assistance in arranging a benchmarking visit with another department of the requesting organization. Without such mutual benefit, the likelihood of a successful, long-term benchmarking exchange is low.

STEP 3A: COLLECT DATA

The benchmarking team should tap the following information sources.

Internal. Some organizations have a company library, but everyone has access to a public library. Using online computer capability, a search of everything published on the team's topic during the last 5 years can be conducted. This effort usually reveals a wealth of information that can be expanded by directly contacting the authors of the most pertinent articles. Other internal sources include reviewing internal market research or competitive studies.

External. So much organizational information exists in the public domain that the problem is one of sifting the mountains of data. Sources such as professional associations, public seminars, lectures, trade shows, and speeches before public audiences are all available.

Original. It may be necessary to contact directly some potential benchmarking partners through phone or mail surveys. This approach uses a series of increasingly detailed questionnaires. For example, if 100 organizations have been identified as candidates, then the benchmarking team can send out a simple questionnaire to each one asking about the performance of the subject process and the organization's willingness to benchmark. The team should provide its performance data on the same questions being asked. This sets the right tone of openness, sharing, and possible collaboration. Once the responses are received, more detailed questionnaires can be mailed until the benchmarking team believes it has found the select few organizations it wants to visit. If these selected organizations agree to a benchmarking exchange, then the team needs to prepare for the site visit.

STEP 3B: CONDUCT THE SITE VISIT

Conducting a site visit is not a trivial activity. Extensive preparation is required to ensure the visit is mutually useful and productive. Simply visiting with an other organization may be socially pleasing, but it is not apt to yield any significant learning. In addition, world-class organizations that are overwhelmed with requests for benchmarking visits will not allow one to occur without extensive assurances that the visit will be productive.

Questions that will be asked during the site visit should be prepared and sent to the benchmarking partners before the visit. This is usually the first test the prospective partner uses to understand the degree to which the requesting team is prepared.

Preparing good penetrating questions takes some thought. The team should prepare a prioritized list of the topics about which it wants to ask. There are several question forms, such as open-ended, multiple choice, forced choice, and scaled questions. Each has a useful purpose and all forms should be used to extract the required information.

The questions should be tested on an internal benchmarking partner. Any first attempt to develop succinct, pertinent questions is difficult, and using them internally will reveal any design deficiencies. Once perfected, these questions are asked during the site visit.

Another reason for extensively preparing questions is that it is not useful to ask one partner one set of questions, and another partner a different set of questions. When that occurs, answers are impossible to correlate and summarize.

An agenda for the site visit should be prepared and exchanged, and the participants identified. As part of this site visit preparation, a benchmarking protocol should be agreed to so that questions about what information will be exchanged and what documents will be available are answered before the visit. It is less than professional for a team to request information that is denied.

Typically, a benchmarking site visit team consists of a small number of individuals, perhaps four, each of whom plays a specific role in the meeting. One individual is designated as the team presenter, and he or she should be prepared to present professionally the project team's current flowcharts and related process information. Another team member should be prepared to ask the questions that have been forwarded to the partner. A third team member is the scribe and should have a laptop computer to record the responses to all questions.

A fourth member can fill a number of support roles. If some specialized knowledge is required to understand the information presented, the team may invite such a specialist to attend. Some project teams regularly invite a senior manager to attend, because this affords the manager the opportunity to see a world-class performer in action. This exposure has the effect of enabling senior managers to rethink what their organization needs to accomplish. All team members should be organized, should rehearse, and should prepare themselves thoroughly to conduct a professional site visit.

In turn, the benchmarking partner will likely have a team of two to four participants with an agenda of their own, who will follow a similar meeting format. Thus, each team might take a half day to review and answer the questions and the remaining time to visit the operation to observe it firsthand. The time required to accomplish the agenda of both teams may not be sufficient where a process is complex. The need to satisfy both agendas provides another argument to support the need for thorough preparation to ensure a successful exchange of information.

Once the site visit is complete, the benchmarking team should write a site visit report. It captures the answers recorded by the scribe, as well as impressions and information from the other team members. It is essential that this report be prepared the same day as the meeting, in the hotel lobby, airport lounge, or wherever the team members can debrief while their impressions are still fresh in memory. This report, and all other site visit reports, become the basis for the best practices report (Figure 12.2). It is this report on which the team will base its recommendations to management.

At this point some will argue that there is so much work in conducting a benchmarking study, and so much normal work to be completed, that an outside consultant should be hired to perform the task. When time pressures are extreme, when external sources have more creditability, or where specialized skills are required such as questionnaire design, hiring an outside consultant to perform the work may be appropriate. However, when an external source is used there is little organizational learning, and, perhaps, little ownership in the findings. The rule of thumb followed by many organizations familiar with benchmarking is 70/30; 70 percent of the studies done internally, 30 percent done externally.

STEP 4: ANALYZE THE PERFORMANCE GAP

The team must now analyze all the information collected. The specific task here is to analyze the data to determine if the processes benchmarked are at parity, ahead of, or behind others. Said differently, the team needs to identify gaps or differences in performance that exist between the team's process and that of the best-in-class and that of world-class organizations. This analysis should include which inputs, outputs, processes, or steps within a process are superior, and by what *measure* each of these components is superior.

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FIGURE 12.2 Best practices report. (*DeToro 1995, Table 14.5.*)

"By what measure?" is an important question, because summary data that seem comparable can be quite different if calculated differently and if different elements or assumptions are used in the calculation. Quantitative measures are often quite unreliable, and different methods of deriving data make any meaningful comparisons difficult.

Another important part of analyzing performance is the development of a summary statistic. This data element is usually a measure of overall performance that is useful in making preliminary comparisons between organizations and for projecting data, as will be seen in step 5. Computing a summary statistic—a quick measure of productivity—may be as simple as dividing an organization's output by the number of people involved. In warehousing, for example, dividing the number of orders picked and packed by the number of individuals involved is a rough measure of performance.

In addition to analyzing the performance gap between the team's process and that of its partners, the team also needs to understand how the targeted operation would perform if all the best practices observed were adopted. This is important because if the combination of all best practices from all benchmarking partners is implemented, that may allow the benchmarking team to surpass the performance of every partner studied.

For many reasons, however, it may be impossible to adopt all the best practices. Transition cost, disruption, cultural issues, and conflicting values are all reasons organizations usually offer for making minimal change. But as a result of the comparison of best practices, the full extent of the opportunity to achieve superior performance is now known, as are the specific work steps and methodology in achieving this improvement. *A more compelling case for dramatic process improvement and change is hard to make.*

The team needs to compare each of the steps of its process and determine the results achieved by the benchmarking partners. That is, what is the value, performance advantage, or cost advantage in each of the key steps of the subject process if the project team were to adopt the best practices of the organizations studied? An example of an analysis of performance gaps is shown for a technical training group in Table 12.1.

Another important activity in assessing benchmarking data is visually comparing the flowcharts employed by each of the benchmarked firms. This side-by-side comparison reveals important improvement opportunities. Typical observations and implications are listed in Table 12.2.

The team should compile a "best-of-best practices" chart for the benchmarked process. This chart includes, for each step in the targeted work process, a description of the best practice, the performance advantage associated with that best practice, and the value or gain possible if this best practice were employed. This information is the basis on which recommendations will be made in step 6.

STEP 5: PROJECT PERFORMANCE LEVELS

In the analysis step, the relative position today is defined, but industry practices are not static. Both industry and competitors continue to pursue improvement. Therefore one must not only analyze the gap as it exists at the time of measurement but also project where the benchmark and gap are likely to be in the future (see Camp 1989, p. 152 for a graphic portrayal).

At this point in the project, management has the right to ask the team the following:

- How does the organization compare today with the industry's best?
- How will this organization gain a performance advantage?
- What will it mean to the operation? The organization?
- How much will it cost to convert?

To answer these questions, the benchmarking team needs to ask the following:

- What were the historical performance trends?
- What is the current performance gap?

TABLE 12.1 Performance Gap Analysis

Group: Technical Training
Process: Curriculum Development
Performance Analysis Summary

Current method	Best method	Performance advantage	$ value gain	Conversation considerations
		Work step 1: Needs analysis		
Discuss deficiencies with trainers	Ask client to identify current performance deficiencies, set program goals and set customer requirements	Save one full day in the field observing incumbents	$350	Develop new survey questionnaire
	Conduct task analysis to identify job duties and create a task map	Improve accuracy of learner objectives and save half day of rewrites	$175	Train curriculum development team
Observe incumbents on the job	Observe incumbent performers on the job	Same	None	$2500 travel costs/year
Survey managers and top performers	Observe top and average performers on the job to measure performance differences to compute potential for improvement	Set measurable targets for improvement against which to assess success	Save 1 day	
Create learner objectives	Convert into learner objectives	Same	None	

Source: DeToro 1995, Table 14.6.

- How will industry performance change?
- Will the performance gap widen, narrow, or remain the same?
- What are the implications for the subject business?
- How can the organization gain a significant performance advantage?

The team can begin to answer these questions by choosing a summary statistic and using it as an overall measure to understand changes that have and will take place. Historical data (from the organization and from the overall industry) and projected improvements can be compared and analyzed to determine:

TABLE 12.2 Flowchart Comparisons

Observations	Implications
Fewer steps	Fewer people, lower cost
Different sequences	Better work flow, reduced cycle time
Different handoffs	Short cuts, reduced errors
Design differences	Better asset utilization, lower cost
Automated steps	Streamlined processes, reduced errors
Steps outsourced	Specialized skills utilized, lower costs

Source: DeToro 1995.

Recent trends

Size of the performance gap

Why the performance gap exists

If the gap is widening or narrowing and why

The next activity for the team is to decide what improvements the industry is capable of achieving in the future and plot those industry trends along with improvements the team expects to secure during the next 2 to 5 years. Actually, the team should develop two projections: one showing the effects of no changes in the current process and a second showing the effects of implementing the best practices discovered through benchmarking.

The last activity in step 5 is assessing the operational implications of the changes and the financial impact or value in closing the gap. For instance, the projected changes may have operational effects on suppliers, customers, and staff, as well as methods of working. Each of these impacts needs to be identified and the implications of the proposed changes shared with the affected groups. This is necessary to ensure that those affected have ample opportunity to absorb and adjust. Similarly, the financial effect needs to be calculated so that the value of implementing the best practices is identified and conveyed to the affected groups. A powerful technique to capture the minds and hearts of senior managers is to translate the operational and financial benefits of implementing best practices into the contribution they will make to the organization's goals and objectives, and the contribution they will make toward realizing the organization's vision.

STEP 6: COMMUNICATE FINDINGS

Collecting and analyzing the best practices data and projecting the operational implications are important and necessary, but are not enough to attain improved organizational performance. The benchmarking team has the responsibility to secure management's approval for the recommendations. Management skepticism, unwillingness, or outright resistance to accept the team's findings may exist. Thus, the team's task is to communicate its findings in such a way as to obtain acceptance. To accomplish this, the team must ensure that management understands the findings, thinks the team is creditable, and accepts its recommendations. This is achieved as follows.

Decide Who Needs to Know. There are both formal and informal decision makers in every organization, and there are customers, suppliers, staff, and associates with whom the teams work. From among these constituencies the team must decide who (by name) needs to know about its findings, what they need to know, and why they need to know it.

Select the Best Presentation Vehicle. Cultures vary, and what is accepted in one organization may not be viable in another. In some cases written reports are required with detailed supporting documentation. In other cultures, an oral presentation with overhead transparencies that is preceded by prebriefings and handouts is required. In other organizations, a one-page executive summary and informal discussion is all that is needed. The team must tailor the delivery of its report to its audience.

Organize Findings. The team should capture its findings in the best practices report (Figure 12.2). This document represents the accumulation of all the work the team has completed and is an integral part of the communication effort. The report is also important because it captures work that may be useful to other benchmarking teams. Lastly, the discipline of developing a document like the best practices report helps ensure the team's findings will be thoroughly prepared.

Best practice reports should include descriptive and quantitative data; present facts, not opinions; stress performance gains, not methods of investigation; and include a preliminary estimate of the cost to implement the recommendations.

Present Recommendations. The presentation of best practices should be made with the complete benchmarking team in attendance. Various portions of the presentation can be delegated so that responsibilities are shared. This approach represents a developmental opportunity and is one of the highest forms of recognition.

The team's recommendations should always be accepted. That is not to say that every benchmarking team's recommendations should be automatically accepted without challenge; however, questions should be raised and answered and issues should be identified and resolved well before the final presentation. If the team has kept its management sponsor appraised throughout the benchmarking study, and if senior management has reviewed the team's work and provided guidance and support, it is highly unlikely that recommendations would be rejected.

STEP 7: ESTABLISH FUNCTIONAL GOALS

After management approves the recommendations, the impacts of practice changes must be identified and communicated to the affected individuals. Management normally does not concern itself with the day-to-day details of process improvements; however, management does need to know what these recommended changes mean to the work unit, the department, and the organization as a whole. An important related question is: What does implementing these recommendations mean to the organization this year? To answer these questions the team must complete the following three tasks:

Revise Operational Goals. Every organization and the units within it have clear, definite direction regarding the short- and long-term objectives that must be accomplished. The anticipated changes are reflected in a revised set of goals and objectives. Failure to revise direction after a benchmarking recommendation is accepted indicates that the organization is not serious on following through with the recommended actions. This may reflect less on the team, and more on management's unwillingness to improve performance aggressively.

Analyze the Impact on Others. Obviously, changes are not implemented in a vacuum, and significant changes can reverberate throughout an organization. Groups normally affected include customers, suppliers, management, staff, and associates. An example of *not* considering the impact of changes on others occurred at Xerox Distribution. The picking operation became more efficient as a result of benchmarking the L. L. Bean operation. Xerox, however, did not consider the impact of its improved productivity, and the packing department was unprepared to handle the increased volume. A sample of the impacts that a technical training group identified are listed in Table 12.3.

Changes, and the effects that result from those changes, are important. The types of changes that can be considered significant include but are not limited to the following:

Changes	Effects
Layoffs	Reorganization
Redeployment	Reduction in allocated funds
Altered customer requirements	Revised reporting relationships
Altered priorities	Supplier changes
New job descriptions	New input requirements

Secure Management Approval. Once again, management must endorse, support, approve, and to some extent implement the changes brought about by the benchmarking effort. Clearly, this applies if the changes involve redirecting the goals and objectives of the organization, or if there is a significant effect on individuals.

At this point the team is prepared to implement their recommendations.

TABLE 12.3 Benchmarking Impact on Other Groups

Impact on other organization's operating plans as the result of implementing the recommendations of a benchmarking team at Xerox Distribution

Suppliers:
- Technical engineers will have to provide operating plan manuals and hands-on training to curriculum designers.
- Graphics department will have to create all artwork on PCs.
- Outside cleaning service will have to clean two additional classrooms per day.

Internal support groups:
- Cafeteria will have to adjust for 50 additional students per week.
- Corporate travel department must book 25 additional rooms to accommodate larger classes.
- Lunch schedule will have to be staggered.

Field organization:
- Field technicians will have to complete a preschool self-study program prior to attending classroom training.
- All technicians will have to travel to Headquarters training center. Regional training centers will be closed.
- Travel budgets must be increased 10 percent to reflect longer distances traveled.
- Field managers will be required to certify technicians' preparation for class.

Company:
- Company-based erosion may be revised downward.
- Market share erosion projection may be lowered.

Source: DeToro 1995.

STEP 8: DEVELOP ACTION PLAN

The benchmarking team must now assess implementation priorities, develop an action plan, and when approval for the action has been secured, proceed to implementation. Taking the following steps enhances the team's opportunity for success.

Set Implementation Priorities. Not all benchmarking practices will yield the same payoffs, and some may be more difficult to implement than others. Some changes may be more costly than others, and still others will require staff changes. Some will have significant consequences upstream for suppliers, and downstream for customers.

Given these considerations, implementing best practices, most likely, will be done in stages. But, it may not be so obvious which are the best practices to implement first. One approach to dealing with this issue is not to choose the practice to be implemented, but to choose the criteria by which a best practice should be selected. Once the criteria have been defined, the selection of the practice to implement may be straightforward. Priority criteria are shown in Table 12.4.

Teams can develop a worksheet to assess the various values of each criterion. This way decisions can be based on information and analysis, not opinion. The example shown in Table 12.5 demonstrates how a technical training team decided which best practice to implement. This analysis should be completed for each practice under consideration.

After this is completed, a distillation of information results in a summary that rank-orders the practices to be implemented. This is shown in Table 12.6.

Show Revisions to the Performance Gap. The benchmarking team now needs to reflect on the staging of implementation and its effect on the performance gap. The logic here is that the projection of the gap prepared earlier must be modified to reflect the phased implementation. A graph, such as the one in Figures 12.3*a* and *b*, illustrates, to the team and management, the expected gains within the implementation period.

TABLE 12.4 Implementation Priority Criteria

Criteria	Consideration
Performance improvement	How much will this contribute to the work unit output?
Time to implement	How soon can this process be installed and see results?
Cost to implement	What will it cost to implement?
Training required	Who needs to be trained on what, where, when, for how long?
Success probability	What are the risks? What is the certainty of results?
Controls needed	What inspectors, measurements, and monitoring systems are needed?
Staff changes	What changes in people are required?
Impacts	Who is affected by the changes internally? Externally? Do facilities have to be enlarged? Does the company have to relocate?

Source: DeToro 1995.

TABLE 12.5 Implementation Priority Criteria for a Technical Training Team

Criteria	+/−Considerations
Performance improvement	+Saves several weeks
	+Improves test scores
	−None
Time to implement	+Three weeks
	+No impact on current work
	−First quarter too busy
Resources required	+No additional people required
Cost to implement	+Estimate $2500
	+No new equipment required
	−Requires a budget allocation
	−Requires new software $4500
	−Requires new laser printer $10,000
Training required	+Five designers attend two weeks of training
	−Training costs $8000
Success probability	+Very high, no new technology involved
	+Staff likes new approach
Controls needed	+Monitoring and retraining
Staff changes	+Hire curriculum design specialist
	+Promote one editor to designer
	−Add $45,000 to overhead
Impact	+No direct impact

Note: Not all these criteria are required every time. Perhaps only two or three are necessary for a specific best practice.
Source: DeToro 1995.

Develop Action Plans. The team needs to complete the following:

- Describe the specific tasks that must be completed and the results expected.
- Sequence the tasks chronologically and designate a targeted completion date for each.
- Assess the resources required to implement the best practices. This covers items such as budget, people, equipment, and materials.

TABLE 12.6 Implementation and Strategy

Work practice	Priority/strategy
1. Needs analysis	Implement immediately
2. Task analysis	Implement within 30 days
3. Program blueprinting	Implement immediately
4. Write curriculum	Implement 10 days after designers are trained
5. Pilot program methods	Wait until all practices are installed
6. Evaluation methods	Wait until first pilot is conducted

Source: DeToro 1995.

- Assign responsibilities to specific, named individuals for each action item. Explain how to complete the task.
- Establish a monitoring system to track progress and alert the team when corrective action is required. This includes setting up a reporting mechanism to keep the process owners informed of the project status at all times.

An example of a simplified action plan is illustrated in Figure 12.4.

STEP 9: IMPLEMENT PLAN AND MONITOR RESULTS

The implementation plan has been approved, and the team now moves toward instituting best practices. A few considerations are appropriate here to help the benchmarking team understand the progress of its implementation efforts. The team should first pilot one best practice before a wholesale implementation is begun. That pilot may be as simple as a simulation of the new process, in which paper is passed around to represent the various steps in order to understand the flow of information and the activities that would be performed. In a more complex process, an actual trial run would be conducted in which data or material are subjected to the new work methods. In the latter case, it is always a good idea to push the pilot hard to determine if the new process can withstand the pressure of high-volume, complex transactions.

The team needs to establish measurements to gauge implementation progress. These process measures, also called "efficiency measures," include cost, time, quality (no defects), and a series of effectiveness measures that determine customer satisfaction.

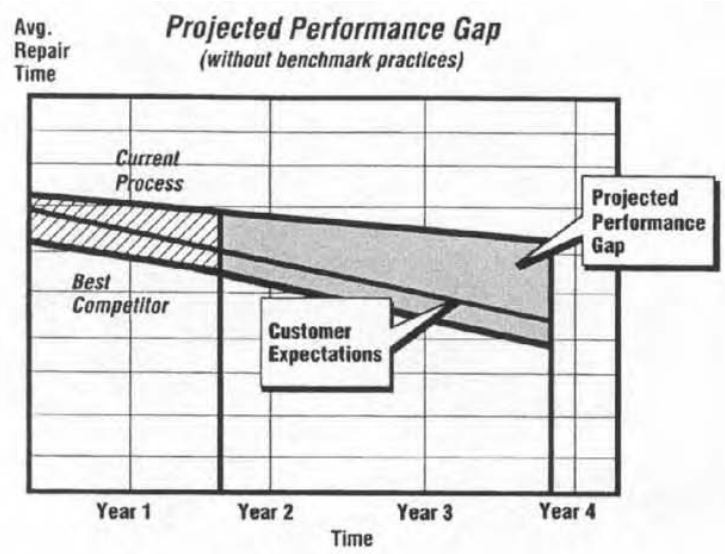
Many quality tools are available to help the team during the implementation phase. The seven basic and seven management tools (see Camp 1994, p. 137) should be employed to ensure that data are captured and analyzed to reflect the performance of the new best practices.

STEP 10: RECALIBRATE BENCHMARKS

To ensure success and effectiveness, benchmarks must be planned and recalibrated. There are no hard and fast rules on the frequency and method for recalibration.

Several approaches can be pursued. Specific, targeted studies can be done to fill information gaps. A complete reassessment of all critical benchmark targets and best practice findings can be done. Or a new, more productive investigation can be pursued. It is important to remember that at some point a complete reassessment must be done to ensure that information remains relevant and timely.

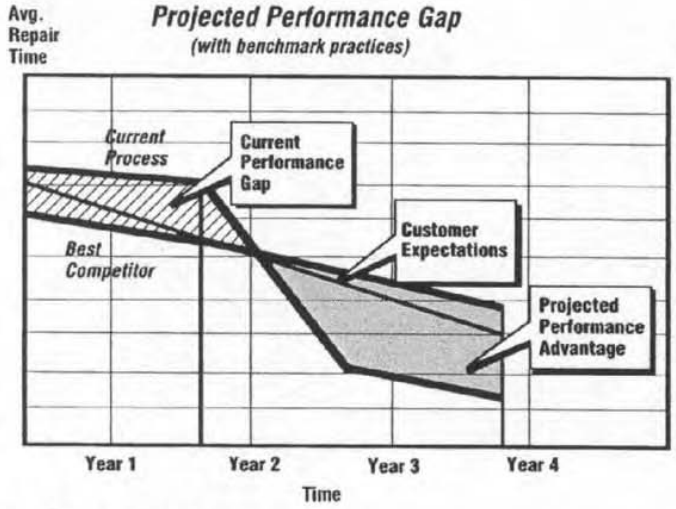
One approach is to recalibrate benchmarks annually. More frequently is usually not worthwhile since practices generally do not change that rapidly. Recalibration after 3 years is a massive undertaking since almost all processes will be affected. (Only some processes may be affected by annual



Description of Projected Trends

- Our investigations reveal that the competition is investing in computer-aided instruction materials, which would further reduce their training time from 3 days to 2.5 days, and improve the average time to repair equipment to 0.8 hours within two years.
- During the same period, we would expect, barring no strategic changes in our training methods, to achieve 1.2 hours per service call.
- Without strategic changes, our competition would widen its advantage to 0.4 hrs. (0.8 vs. 1.2) within 2 years.

FIGURE 12.3a Impact of projected performances—current. (*DeToro 1995, Figure 14.6.*)



Impact of Benchmark Practices

- With the adoption of best industry practices, we could within six months achieve an average test score of 0.7 hours, giving us a performance advantage of +0.4 over our best competitor.
- Even allowing for competitive improvements, we would still maintain a performance advantage of ≥ 0.1 for several years.

FIGURE 12.3b Impact of projected performance—with changes. (*DeToro 1995, Figure 14.7.*)

New practice	Action items	Assigned to	Resources required	Budget required	Completion date
Revise needs and analyze needs	1. Write new procedure manual	Fred Kennedy	PC	$1500	10-6
	2. Set approval points	Fred Kennedy	Schedule calendar	—	10-8
	3. Create a progress chart	Carol Jenkins	PERT	$75	10-30
	4. Train designers	Bill Peterson	Classroom facilities	$500	11-15
	5. Explain procedures to suppliers	Carol Jenkins	Procedure manual	$250	12-1
	6. Coordinate staff training	Fred Kennedy	Curriculum	$400	1-4

FIGURE 12.4 Action plan. (*DeToro 1995, Table 14.15.*)

recalibration.) Some level of insightful maintenance is probably most productive. Each business unit and benchmarking team needs to determine the frequency of recalibration based on its own industry and needs. Obviously, rapid external change argues for faster benchmarking updates. However, a useful rule is to examine the need to recalibrate within 3 years of the original study.

For example, Company A examines its accounts receivable process every 3 years. It has made only minor adjustments in the 6 years since an early benchmarking project resulted in a major redesign of the process. The customer service process is a different story. Because the technology available to support the process is changing so rapidly, the process team has been conducting benchmark studies almost continuously over the past 5 years.

Each business unit and benchmarking team needs to determine the frequency of recalibration on the basis of its own industry and needs. Obviously, rapid external change argues for more frequent benchmarking updates.

Recalibration is performed by reexercising the 10-step benchmarking process. It is imperative that all steps are reexamined. None should be skipped, because assuming nothing has changed is a dangerous approach. Feedback from internal sources should readily reveal deficiencies and areas where new information is needed.

The full value of recalibration is not only in refining the output of the benchmarking process, but also making the process more efficient and responsive to benchmarking needs.

SUCCESS FACTORS AND MANAGEMENT CONSIDERATIONS

Having process owners conduct their own benchmarking project is fundamental to its success. Those who work the process know it best. They are almost always the most qualified to analyze it. When the process owners conduct their own benchmarking, they develop a commitment to the process and resulting best practices.

Successful benchmarking is not done by separate staffs. There are, however, individuals who act in a competency capacity to help ensure that the benchmarking process is followed. But the actual benchmarking is done by process owners or process representatives, with assistance.

There are several considerations for managing benchmarking activities. Among them is the way benchmarking is communicated. It can make a big difference. When continuous improvement is used, it means that all must work together to improve how things are done so that a stronger organization results. Benchmarking is the process to find the best practices that are implemented in work processes that will lead to continuous improvement.

How resources are found to conduct benchmarking must also be considered. While it is true that some incremental resources are needed for new benchmarking, there is often another option. Somewhere, in nearly all organizations, there are resources devoted to continuous improvement. Some of these should be devoted to benchmarking. Benchmarking should be looked on as part of the ongoing effort to improve, and as part of the process owner's job. It should not be seen as extra work. There are an unlimited number of best practices, each offering significant potential for improvement, for increased results, and for superior performance. The process operators should be urged to go and find them.

To get the most out of benchmarking, what is not needed is blindly copying other institutions. That will not get superior performance. Creatively adapting best practices will. The implementation phase of benchmarking should be the creative phase. Benchmarking means combining the creative talents of the people running the processes with best practices. Benchmarking should uncover the best practices. But their innovative implementation should be the way the organization goes beyond and establishes a competitive advantage.

For example, Xerox is most concerned with customer satisfaction. When benchmarking L. L. Bean, Xerox became patently aware of Bean's customer satisfaction policy. If a customer is unhappy with a product, Bean will take back the product and return the customer's money. Xerox believed that to be a best practice. But Xerox went beyond just copying the practice. Xerox asked its customers for feedback about the best practice and found some interesting results. Customers did not want their money back; they wanted the device to work. So Xerox had to adapt the best practice to work for its customers.

The result is Xerox's Total Satisfaction Guarantee, which says that if the customer is dissatisfied with a Xerox product within a stated time frame after purchase, Xerox will replace the product, at the customer's request, until he or she is satisfied with it. So Xerox did not just copy the L. L. Bean best practice. Xerox went a step further to adapt that best practice to its specific customer needs.

Behavioral Benefits. Benchmarking is essentially a learning experience. It helps an organization focus and drive for consensus on what needs to be done and how to achieve it, not argue over what should be done. Benchmarking can provide the stimulus for improvement by people at all levels through an externally focused, competitive situation to achieve world-class performance with increased customer satisfaction. Very few people are willing to settle for second place once they are aware of what needs to be done and know how to do it.

Competitiveness. The bottom-line benefit of benchmarking is improved competitiveness and increased value in the eyes of customers. Effective use of benchmarking to develop and implement improvement actions can help organizations achieve superior customer service levels. This, in turn, will lead to increased market share and improved financial results.

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