The Department of the Navy Benchmarking Handbook:

A Systems View

by Joan Kraft
Department of the Navy
Total Quality Leadership Office

About the TQLO

The mission of the Total Quality Leadership (TQL) Office, Office of the Under Secretary of the Navy, is to assist the Department of Navy (DON) leaders in their quality-focused improvement efforts. The TQL Office provides products and services in six key areas:

Consultant Services

TQL Office members provide technical advice to the Under Secretary of the Navy and other senior Navy and Marine Corps leaders on the application of TQL principles and methods within the DON, strategic planning, and strategic management. Advice may include recommendations on implementing new policy and procedures or the use of facilitators/coaches for DON and/or federal government initiatives.

Information and Communication

The TQL Office communicates TQL policies and initiatives through the *TQLeader* newsletter, articles, reports, and presentations at conferences and meetings. The Office is developing a computer-based quality information network to facilitate communication with DON, Department of Defense, and Joint Service organizations.

Networking and Liaison

The TQL Office has expertise to share with other organizations, both government and private, and much to learn from them. Staff members participate in TQL-related networks and professional organizations.

Education and Training

The TQL Office is responsible for ensuring the technical accuracy of the DON TQL curriculum. Having overseen the design and development of the TQL courses, the TQL Office staff now advises on the integration of TQL material into the DON training pipeline. The TQL Office continues to design new courses and publishes handbooks and other publications on all aspects of organizational change.

Assessment

The TQL Office designs and develops new approaches to improving overall organizational effectiveness and feedback mechanisms to support mission accomplishment. These systems assess and enhance the implementation of total quality in DON organizations.

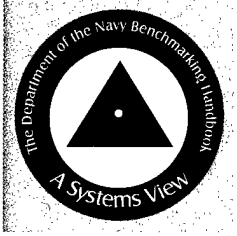
New Technologies

Technology provides critical support to DON quality improvement efforts. The TQL Office assesses new technologies related to organizational change and process improvement and translates them into applications for the DON.

The Department of the Navy Benchmarking Handbook:

A Systems View

by Joan Kraft
Department of the Navy
Total Quality Leadership Office



This Page Intentionally
Left Blank

Foreword

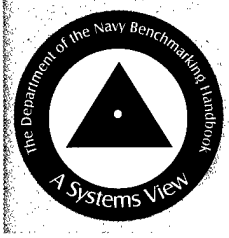
This handbook, *The Department of the Navy Benchmarking Handbook: A Systems View,* was developed to provide guidance and useful information to assist top Department of the Navy (DON) leaders, commanding officers, Total Quality Leadership (TQL) coordinators, quality advisors, and team facilitators in the art and science of benchmarking.

Benchmarking is a quality tool that allows an organization to improve organizational performance by assessing itself as well as its competitors. It enables an organization to measure its products, services, and practices against those of leading companies and organizations throughout the world. Through this knowledge, organizations can develop and implement plans to achieve increased customer satisfaction and ultimately become the best at what they do.

The TQL Office, Office of the Under Secretary of the Navy, has as one of its strategic goals the translation of new technologies, such as benchmarking, into uses that are relevant to the Navy and Marine Corps. We believe this handbook can assist DON organizations become not only better at what they do, but recognized, world-class leaders in accomplishing their missions.

This handbook describes the DON Benchmarking Model and details the steps to take to maximize an organization's potential for success. This model is based on extensive research and analysis of over 20 benchmarking models from government and industry, and on successful DON, Department of Defense, government, and industry benchmarking initiatives. *However, the truly distinctive characteristic of this handbook is that it integrates the benchmarking process with other total quality initiatives, thus providing a systematic approach to implementing the DON's quality philosophy.* The concepts, principles, and language used are consistent with those found in the DON TQL education and training curriculum.

The Department of the Navy Benchmarking Handbook: A Systems View also demonstrates how benchmarking is linked to an organization's strategic plan and its team structure. Specific roles and responsibilities are suggested for the top managers, process owners, and benchmarking teams at each step throughout the process.



Graphic design and technical support for *The Department of the Navy Benchmarking Handbook: A Systems View* was done by Logicon Syscon (under subcontract to K.W. Tunnell Co., Inc. contract number GS-22F-0096B). I especially want to recognize the efforts of Ms. Cathy Goff, who contributed to the success of this product.

We hope you find this handbook easy to use and that you experience continued success and recognition as you work toward your organizational vision.

The Department of the Navy Benchmarking Handbook: A Systems View, along with many other TQL Office products, can be accessed and downloaded from our Web Site at **www.tql-navy.org.**

For questions about the DON benchmarking process, contact the author of this handbook, Joan Kraft, at the DON Total Quality Leadership Office, Building 36, Washington Navy Yard, 901 M Street, SE, Washington, DC 20374-5024. Her phone number is 202-685-6833 (fax -6853).

Linda M. Doherty, Ph.D.
Director
Department of the Navy Total Quality Leadership Office

Contents

What is Benchmarking?

Benchmarking is a strategic and analytic process of continuously measuring an organization's products, services, and practices against a recognized leader in the studied area (*Department of the Navy TQL Glossary*, 1996).

Benchmarking is more than a simple comparison of one organization's business practices to another for the purpose of improving one's own process. Benchmarking provides a data-driven, decision-making vehicle to implement changes of world-class quality to core business practices. And, since there is no one way to perform a process that will be the industry's best practice forever, benchmarking is also an ongoing discovery process that recalibrates to establish new baselines for continuous improvement. Performed well, benchmarking will also promote teamwork and remove subjectivity from mission-critical decision making.

Background

The term "benchmark" comes from the U.S. Geological Survey benchmarking symbol. It means *to take a measurement against a reference point.*

Probably the most successful of the benchmarking pioneers is the Xerox Corporation. Xerox began conducting benchmarking studies formally in the late 1970s in its copier duplicator manufacturing division. Other companies have achieved similar successes from benchmarking, including: Ford Motor Company, Alcoa, Milliken, AT&T, DuPont, IBM, Johnson & Johnson, Kodak, Motorola, and Texas Instruments. Many of these companies are winners of the Malcolm Baldrige National Quality Award. The award program's board of examiners recognizes benchmarking as a key quality tool; it is tied to over one third of the total award points. Similar criteria are used for the President's Quality Award, the Quality Improvement Prototype Award, and the Deming Prize.

Other definitions of benchmarking include:

- "A surveyor's *mark* . . . of a previously determined position . . . used as a reference point . . . a *standard* by which something *can be measured* or judged." (Webster; 1984 [emphasis added]).

- " . . . 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 attain a level of superiority or competitive advantage . . . the search for those best practices that will lead to the superior performance of a company." (Camp, 1989).

- " . . . a continuous, systematic process for evaluating the products, services, and work processes of organizations recognized as industry or world leaders." (Spendolini, 1992).

- "A process for rigorously measuring your organization's performance and processes vs. the 'best-in-class' organizations (both public and private), and using the analysis to substantially improve services, operations, and cost position." (Kaiser Associates, Inc., 1995).

- ". . . the search for industry best practices that lead to superior performances." (Benchmarking Report for the Assistant Secretary of Defense for Command, Control, Communication, and Intelligence, 1994).

- " . . . the practice of being humble enough to admit that someone else is better at something and being wise enough to learn how to match and even surpass them at it." (American Productivity and Quality Center, 1993).

A best practice is . . .

- the best-in-class
- the industry leader
- the best-of-breed
- world-class
- a relative term

Benchmarking is . . .

- a *tool* to identify, establish, and achieve standards of excellence.
- a *structured process* of continually searching for the best methods, practices, and processes and either adopting or adapting their good features and implementing them to become the "best of the best."
- the *practice of measuring* your performance against world-class organizations.
- an *ongoing investigation and learning experience* ensuring that best practices are uncovered, adapted, and implemented.
- a *disciplined method* of establishing performance goals and quality improvement projects based on industry best practices.
- a *searching out and emulating* of the best practices of a process that can fuel the motivation of everyone involved, often producing breakthrough results.
- a *positive approach* to the process of *finding and adapting* the best practices to improve organizational performance.
- a *continuous process of measuring* products, services, and practices against the company's toughest competitors or those companies renowned as industry leaders.
- *learning how* leading companies achieve their performance levels *and then adapting* them to fit your organization.
- a *research* project on a core business practice.
- a *partnership* where both parties should expect to gain from the information sharing.
- both a *business tool* and a *quality tool* for improving key business processes.

Successful benchmarking will help you . . .

- find who does the process best and close the gap.
- recognize the leading organizations in a process or activity.
- create performance standards derived from an analysis of the best in business.
- ensure that comparisons are relevant.
- measure your performance, your processes, and your strategies against best in business.
- measure business processes.
- assess performance over time.
- accelerate continuous process improvements (CPI).
- establish more credible goals for CPI.
- establish actionable objectives.
- discover and clarify new goals.
- establish customer expectations of business standards set by the best suppliers in industry.
- help your organization achieve breakthrough improvements.
- create a sense of urgency for change.
- increase customer satisfaction.
- become direction setting.
- provide a positive, proactive, structured process.

Benchmarking requires . . .

- a *thorough understanding* of your organization's business processes before any comparisons are attempted.
- *planning* to identify the best-in-class for comparison and data collection.
- *analysis* to determine the performance gaps.
- *integration* to set new goals and standards.
- an *action plan* to implement the changes to the process.
- constant *updating* to keep the standard of excellence.
- a *means to measure.*
- *commitment* by leadership.
- *resources,* including time.

Benchmarking works best when . . .

- it supports an organization's *strategic plan.*
- it's done on *existing processes* that are *well-defined.*
- the organizational *leader is knowledgeable and committed* to total quality (TQ).
- it is utilized as a *tool in a TQ organization.*

Benchmarking is *not* . . .

- ✘ just looking for a *better* way to do things; it looks for *the best* way.
- ✘ a mere comparison.
- ✘ only competitive analysis.
- ✘ site briefings.
- ✘ industrial tourism.
- ✘ spying.
- ✘ easy.
- ✘ quick.
- ✘ fool proof.
- ✘ free.
- ✘ subjective.
- ✘ a panacea.
- ✘ a program.
- ✘ a cookbook process.
- ✘ a mechanism for determining resource reductions.
- ✘ business as usual.
- ✘ a management fad.

Benchmarking *does not* . . .

- ✘ *copy.* Instead, you must adapt the information to fit your needs, your culture, and your system. And, if you copy, you can only be as good as your competitor, not better.
- ✘ *steal.* To the contrary, it is an open, honest, legal study of another organization's business practices.
- ✘ *stop.* Rather, it is a continuous process that requires recalibration.

Common misconceptions

Myth: Benchmarking can't work in federal government.

Reality: It already has. As a result of benchmarking studies:

- the Social Security Administration became renowned in 1995 as the world-class service provider of telephone customer service over private industry competitors such as Xerox, Southwest Airlines, L.L. Bean, and the Disney Companies (as determined by the National Performance Review's Federal Consortium Study, "Telephone Services Best Practices For Serving the American Public", 1995).
- the IRS now provides electronic tax returns.
- convenient, fast, self-service government supply centers use a credit card system for billing purchases.
- the FBI found a way to match bullets and fingerprints through integrated databases.

The federal government can and must benchmark to stay competitive and perform as good stewards of the taxpayers.

Myth: Benchmarking won't work in the Department of Defense.

Reality: Just a few years ago within the Department of Defense (DOD), no one would have considered:

- looking at Federal Express to see how to expediently get parts to critical operational areas during a war.
- changing the function of the Inspector General to one of process consultant.
- using a government bank card system for small purchases.

But all these things and more did happen in the DOD to improve mission readiness.

Myth: Benchmarking must be done with the same type business having the same processes.

Reality: Benchmarking can be extremely successful and profitable when comparisons are made to generic or functional processes such as:

- the DON recruiting process against Nordstrom's recruiting process.
- a hospital admissions process against the travel industry for similar processes such as check-in, transportation, billing, and so on.
- emptying trash containers against filling oxygen tanks.

Timeliness, responsiveness, accuracy, etc., are all performance measures that can be benchmarked against numerous processes. Don't just round up the "usual suspects." Stretch. Only your imagination will limit you.

DO . . .	DON'T . . .
✔ select benchmarking projects that are tied to strategic goals/objectives.	✘ benchmark just to say you did it.
✔ benchmark a core process.	✘ expect big paybacks when benchmarking a non-core process.
✔ obtain management commitment.	✘ benchmark without sufficient support.
✔ get the support/involvement of process owners.	✘ leave out the middle managers.
✔ know and clearly map out your own process before attempting to benchmark.	✘ expect to benchmark another's process without a thorough understanding of your own.
✔ identify the important measures of the process.	✘ trust what you can't measure.
✔ allocate adequate resources.	✘ think you can get a big return without some investment of resources.
✔ follow the DON Benchmarking Model.	✘ reinvent the wheel.
✔ plenty of research.	✘ forget to research public domain.
✔ limit the number of site visits and the benchmarking team members who participate in visits.	✘ confuse benchmarking with industrial tourism.
✔ research companies/organizations you visit *before* you go.	✘ go on a site visit unprepared.
✔ abide by the Benchmarking Code of Conduct.	✘ assume Code of Conduct is implicitly known and understood.
✔ reciprocate.	✘ ask for information that you would not be willing to share.
✔ debrief benchmarking teams ASAP after each site visit.	✘ delay a debrief more than three days after the site visit.
✔ keep communications flowing up and down the chain of command.	✘ wait until benchmarking study is complete to get management's thumbs up or thumbs down on progress.
✔ implement the improvements identified by the benchmarking study ASAP.	✘ forget the primary reason for benchmarking is to implement the best practices.
✔ ask internal/external customers what they think would improve the process.	✘ forget what's important to your customer(s).
✔ provide guidance/resources/charter.	✘ "over control" the team.

Why Benchmark?

Benchmarking can greatly enhance an organization's performance. Researching and comparing a core business process to the best-in-class can yield dramatic benefits in a reasonably short length of time. Yet benchmarking does involve a commitment of resources and therefore is not to be entered into lightly.

A clear objective for the benchmarking initiative will greatly increase the likelihood of success. Some of the reasons why organizations use benchmarking are:

- **to accelerate process improvement.** Incremental change is often slow to produce results that people can see. Leaders are more likely to implement a major change in work processes because benchmarking demonstrates that it has been done successfully by others.

- **to forecast industry trends.** Because it requires the study of industry leaders, benchmarking can provide numerous indicators on where a particular business might be headed, which ultimately may pave the way for the organization to take a leadership position.

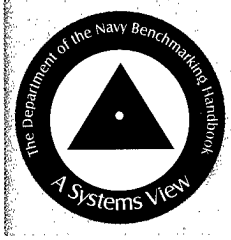
- **to discover emerging technologies.** The benchmarking process can help leaders uncover technologies that are changing rapidly, newly developed, or state-of-the-art.

- **to stimulate strategic planning.** The type of information gathered during a benchmarking effort can assist an organization in clarifying and shaping its vision of the future.

- **to enhance goal-setting.** Knowing the best practices in your business can dramatically improve your ability to know what goals are realistic and attainable.

- **to maximize award-winning potential.** Many prestigious award programs, such as the Malcolm Baldrige National Quality Award Program, the federal government's President's Quality Award Program, and numerous state and local awards recognize the importance of benchmarking and allocate a significant percentage of points to organizations that practice it.

- **to comply with Executive Order #12862, "Setting Customer Service Standards."** Benchmarking the customer service performance of federal government agencies against the best in business is one of the eight action areas of this Executive Order.



Types of Benchmarking

A copier company has benchmarked against a camping goods store. An ammunition supplier has benchmarked against a cosmetics company, comparing shell casings and lipstick holders. An airline company looked at a racing crew to see how to perform quick equipment maintenance and repairs. Within the federal government, agencies have benchmarked their customer service lines for promptness, accuracy, and courtesy against other federal agencies as well as the private sector. The type of study undertaken is not as important as recognizing that benchmarking, both inside and outside an organization, can be enormously beneficial for different reasons and in different ways. Due to the vast differences in resource investments and possible outcomes associated with different types, management must make the decision and identify which type the benchmarking team is to use.

No one type is *the* best way. One type might be more appropriate for an organization than another depending on its environment, products, services, resources, culture, and current stage of TQ implementation.

There are four primary types of benchmarking: internal, competitive, functional, and generic.

Internal benchmarking is a comparison of a business process to a similar process *inside the organization.*

Competitive benchmarking is a direct *competitor-to-competitor* comparison of a product, service, process, or method.

Functional benchmarking is a comparison to *similar or identical practices* within the same or similar functions *outside the immediate industry.*

Generic benchmarking broadly conceptualizes *unrelated business processes or functions* that can be practiced in the same or similar ways regardless of the industry.

A more detailed explanation of these four types of benchmarking follows, along with: a brief description of each type; possible outcomes; examples from DON, DOD, federal government, and private industry; and some of the pros and cons for each type.

Internal benchmarking

Description • Internal benchmarking is a comparison of a business process to a similar process *inside the organization.*

Possible Outcome • Acquire the best "internal" business practices.

Examples • *Department of the Navy:* two contracting departments at the same site, or at two different locations within a systems command, compare contracting process and administrative lead times.

Department of Defense: comparing the publishing process of two or more service news publications.

Federal: comparing how two Department of Transportation sites prepare their budget submissions for Congressional approval.

Private: a retail food store chain selects its most profitable store as a benchmark for the others.

Pros/Cons •

Pros

+ most cost efficient
+ relatively easy
+ low cost
+ fast
+ good practice/training with benchmarking process
+ information sharing
+ easy to transfer lessons learned
+ common language
+ gain a deeper understanding of your own process
+ makes a great starting point for future benchmarking studies

Cons

- fosters mediocrity
- limits options for growth
- low performance improvement; about 10 percent (Texas Instruments, 1991)
- can create atmosphere of competitiveness
- not much of a stretch
- internal bias
- may not yield best-in-class comparisons

Competitive benchmarking

Description • Competitive benchmarking is a direct *competitor-to-competitor* comparison of a product, service, process, or method.

Possible Outcome • Opportunity to know yourself and your competition better; combine forces against another common competitor.

Examples •

Department of the Navy: two Navy sites comparing their transportation processes during a Base Realignment and Closure (BRAC) Commission review.

Department of Defense: contrasting Army and Air Force supply systems for Joint initiatives.

Federal: comparing how agencies handle their travel systems for the purposes of National Performance Review (NPR) recognition.

Private: two or more American car companies benchmark for mutual benefit against common international competitor; or, rival chemical companies benchmark for environmental compliance.

Pros/Cons •

Pros

+ know your competition better
+ comparing like processes
+ possible partnership
+ useful for planning and setting goals
+ similar regulatory issues

Cons

- difficult legal issues
- threatening
- limited by "trade secrets"
- may provide misleading information
- may not get best-in-class comparisons
- competitors could capitalize on your weaknesses
- relatively low performance improvement; about 20 percent (Texas Instruments, 1991)

Functional benchmarking

Description •

Functional benchmarking is a comparison to *similar or identical practices* (e.g., the picking process for assembling customer orders, maintaining inventory controls of spare computer parts, logistics to move operational forces, etc.) within the same or similar functions *outside the immediate industry.*

Possible Outcome •

Identifying practices that are superior in your functional areas in whatever industry they may exist.

Examples •

Department of the Navy: comparing DON warehousing functions with L.L. Bean's warehousing functions.

Department of Defense: comparing and contrasting the Army's process of setting up and taking down tents with a circus process to do the same.

Federal: comparing the IRS collections process against those of American Express.

Private: comparing copper mining techniques to coal mining techniques.

Pros/Cons •

Pros

+ provides industry trend information
+ quantitative comparisons
+ many common business functions
+ better improvement rate; about 35 percent (Texas Instruments, 1991)

Cons

- diverse corporate cultures
- great need for specificity
- "not invented here" syndrome
- takes more time than internal or competitive benchmarking
- must be able to visualize how to adapt the best practices
- common functions can be difficult to find

Generic benchmarking

Description •

Generic benchmarking broadly conceptualizes *unrelated business processes or functions* that can be practiced in the same or similar ways regardless of the industry (e.g., transferring funds, bar coding, order fulfillment, admissions, replenishing inventory, warehousing, etc.). Generic means without a brand. It is a "pure form of benchmarking," (Camp, 1989). The focus is on being innovative and gaining insight into excellent work processes rather than on the business practices of a particular organization or industry.

Possible Outcome •

A broad conceptualization, yet careful understanding, of a generic work process that works extremely well.

Examples •

Department of the Navy: comparing naval base supply orders and delivery with a pizza franchise's order and delivery system.

Department of Defense: comparing and contrasting the administration of small repair parts with a pharmacy's drug dispensing function.

Federal: comparing a Veterans Administration hospital's check-in process against a car rental agency's check-in process.

Private: adapting grocery store bar coding to control and sort airport luggage.

Pros/Cons •

Pros

+ high payoff; about 35 percent (Texas Instruments, 1991)
+ noncompetitive/nonthreatening
+ broad, new perspective
+ innovative
+ high potential for discovery
+ examines multiple industries
+ can compare to world-class organizations in your process

Cons

- high cost
- difficult concept
- can be difficult to identify best-in-class
- takes a long time to plan
- known world-class companies are inundated with requests
- quantum changes can bring high risk and escalate fear

The Department of the Navy Benchmarking Model

The Department of the Navy (DON) Benchmarking Model was developed after studying more than 20 other benchmarking models by recognized experts in the benchmarking and quality arenas, such as: AT&T's 12 step process; Spendolini's 11 steps; Camp's, Texas Instruments', and Xerox's 10 steps; Coopers & Lybrand's 9 steps; GM's 8 steps; Westinghouse's 7 steps; Goal/QPC, Alcoa, and Watson's 6 steps; GTE's 5 steps; and APQC's and the Air Force's 4 step models. Each model had its own value and strengths. The DON Benchmarking Model is unique for a number of reasons.

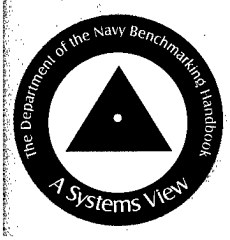
The PDSA Cycle

The DON Benchmarking Model is a 10 step model that relates directly to the *Plan-Do-Study-Act* cycle attributed to Dr. W. Edwards Deming. The *Plan-Do-Study-Act* cycle, the *Plan-Do-Check-Act* cycle, the *Deming Cycle*, and the *Shewhart Cycle* can be used interchangeably. This model uses the *Plan-Do-Study-Act* cycle from Deming's 1993 book, *The New Economics*, because the word "study" most accurately reflects the activities taking place during a benchmarking initiative. The model in this section identifies steps 1 through 3 as part of the *Plan* phase, steps 4 and 5 in the *Do* phase, steps 6 through 8 in the *Study* phase, and steps 9 and 10 in the *Act* phase.

The DON TQL Approach

In keeping with the DON TQL approach, the DON Benchmarking Model takes a systems view of the benchmarking process. An overview of the appropriate roles and responsibilities at every level of the organization follows. The *DON Benchmarking Model as a System* diagram at the end of this section graphically identifies the inputs and outputs for each step.

Top leaders, process owners, and working-level employees are all partners in this effort. The DON TQL education and training curriculum (DON *Team Skills and Concepts,* 1996) refers to the team of top leaders as the Executive Steering Committee (ESC), the team of process owners as the Quality Management Board (QMB), and the working-level team as the Process Action Team (PAT). This traditional structure of total quality teams is used and illustrated throughout the model. However, depending on the process an organization selects to benchmark, the size of the organization, and its maturity in total quality implementation, the team referred to in this handbook as the Benchmarking (BMK) Team may be composed of elements of a QMB and a PAT somewhat differently than what may be typically thought of by the organization.



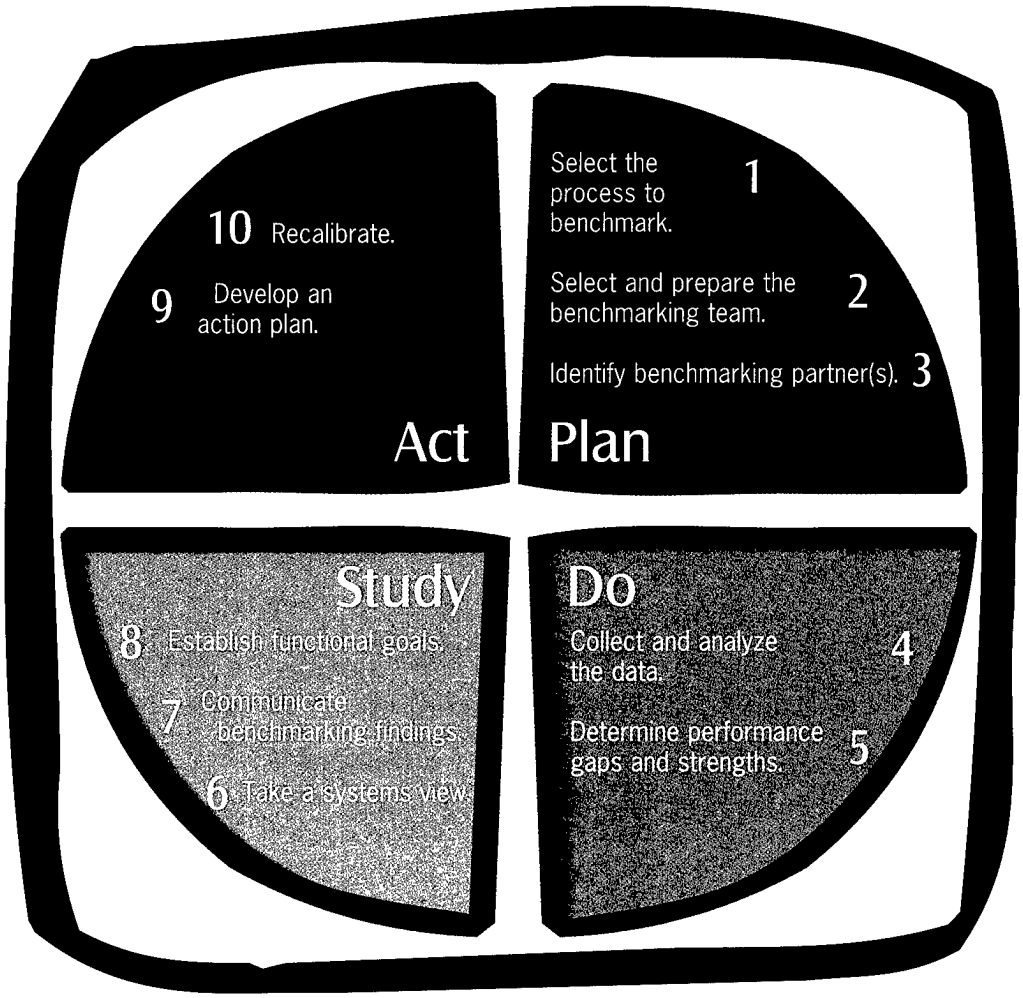
The BMK Team *can* be cross functional, with various levels of employees serving on the team. The design and structure of the BMK Team is formed based on its appropriateness to the process being benchmarked.

The *Overview of the DON Benchmarking Model* provides guidance in adapting the BMK Team within the standard TQL team structure. It is *not* the intent of this effort to simply create more teams and more meetings. An organization may already have a QMB structure that houses the BMK Team. There is no need to duplicate QMBs and/or limit participation in the BMK Team to the working level when the process to be benchmarked requires more or less than is already established within an organization. The needs and requirements of the BMK Team should dictate the composition of the structure.

Strategic Planning

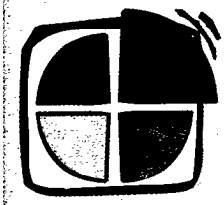
For maximum return on investment, the entire benchmarking process should begin and end with the organization's strategic plan. The strategic plan helps leaders to provide a framework and focus for an organization's improvement efforts (Wells and Doherty, 1994). Benchmarking initiatives can be the first step in achieving those improvements. When the initial benchmarking process is concluded, the vision, goals, strategies, and objectives of the strategic plan may need to be recalibrated based on the data collected and analyzed in the study of best practices.

The Department of the Navy Benchmarking Model



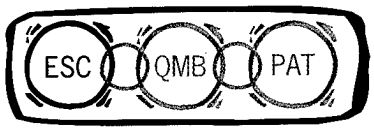
The following pages break down the DON Benchmarking Model in increasing detail to provide a roadmap for organizations to follow in pursuit of the industry leaders.

Overview of the Department of the Navy Benchmarking Model



The Plan Phase

Step 1. Select the process to benchmark.



At the Top Management (ESC) level:

A. Examine the strategic plan (mission, vision, values, goals, strategies, objectives).

B. Examine significant business processes.

1. List possible significant processes for benchmarking.
2. Select one that supports a specific strategic goal.
3. Articulate the purpose and expectations of the benchmarking initiative.

C. Charter a team of process owners (QMB).

1. Develop a charter for the benchmarking QMB.
2. Design a functional flowchart of the process (the "big picture") and other processes it affects.
3. Identify internal and external customers of the process along with their needs, expectations, and any performance measures.
4. Identify *all* process owners.
5. Ensure support of top managers.
6. Identify a benchmarking champion from the ESC to serve as the top-level advocate for the benchmarking initiative.

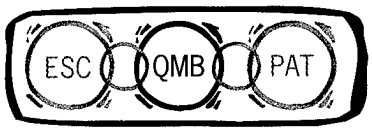
D. Identify the type of benchmarking the BMK Team is to use.

1. Internal.
2. Competitive.
3. Functional.
4. Generic.

E. Identify the goal(s) and desired level of improvement.

1. World-class.
2. Good, better, or best practices.
3. Continuous process improvement (CPI).

Step 2. Select and prepare the BMK Team.



At the Process Owners (QMB) level with Top Management (ESC) Linking Pin:

A. Charter a cross-functional BMK Team and provide guidance, such as:

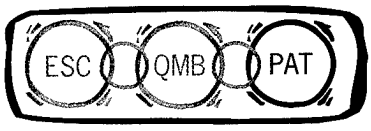
1. Membership.
2. Linking pin to QMB.
3. Benchmarking champion (could be the same as linking pin to QMB).
4. Priorities.
5. Proposed timelines for completion of benchmarking study.
6. Any desired outputs or outcomes.
7. Any critical success factors (effectiveness/quality, efficiency/cycle time, economy/cost).
8. Scope (a broad and shallow or a narrow and deep effort).
9. Boundaries (time, people, resources).
10. Type(s) of benchmarking.

B. Clarify roles and responsibilities.

C. Flowchart the process to be benchmarked.

1. Know how the process currently works.
2. Flowchart the actually process to be benchmarked "as-is."

Step 3: Identify benchmarking partner(s) from best-in-class.



At the BMK Process Action Team (PAT) level with Process Owners (QMB) Linking Pin:

A. Research information sources for best practices.

1. Examine networks, libraries, periodicals, articles, research projects, watchdog groups, industry experts, award winners, and public domain.
2. Prepare a list of companies/organizations to possibly benchmark.

B. Rank the potential partners (approximately 5 to 15).

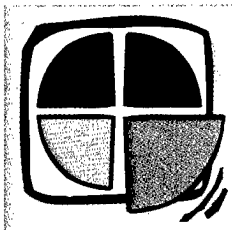
   1. Do a best-in-class matrix.
   2. If necessary, interview potential partners via mail and/or telephone.
   3. Prioritize candidates according to how well they match your benchmarking criteria.

C. Select final partner(s) (approximately 1 to 5).

   1. Concentrate on recognized leaders.
   2. Evaluate advantages/disadvantages of possible site visit(s).
   3. Provide rationale and ensure QMB/ESC approval on selected partner(s).

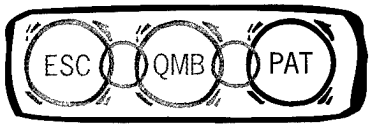
D. Know and use the benchmarking guidelines for ethical conduct.

   1. Review the Benchmarking Code of Conduct (included in the *Supporting Materials* section of this handbook, Part B).
   2. Check with your legal department, if necessary.



The Do Phase

Step 4: Collect and analyze the data.



At the BMK Process Action Team (PAT) level with Process Owners (QMB) Linking Pin:

A. Determine the data collection plan and method.

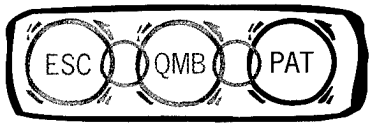
1. Determine what will be measured (productivity, accuracy, responsiveness, speed, product stability, process financial contribution, product availability, product quality, asset utilization, dependability, capacity, service, etc.).
2. Determine how the data will be collected (via mail, e-mail, fax, telephone or face-to-face interviews, survey data, publications, other media, library, databases).
3. Assign roles and responsibilities for data collection.

B. Collect and rank the data.

1. Collect data and organize for analysis.
2. Summarize findings in a report.

C. Train BMK Team with just-in-time TQ skills/tools as necessary.

Step 5: Determine performance gaps and strengths.



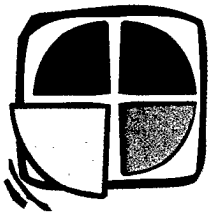
At the BMK Process Action Team (PAT) level with Process Owners (QMB) Linking Pin:

A. Analyze performance gaps and strengths.

1. Do performance gap analysis with detailed comparison of "as-is" to "best-in-class."
2. Determine reasons for gaps between units being compared.
3. Project any future competitive gaps.
4. Re-flowchart as a "could-be" process.

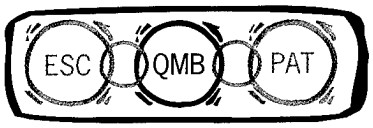
B. Produce a benchmarking report.

1. Summarize analysis into report form.
2. Make recommendations to the QMB.



The Study Phase

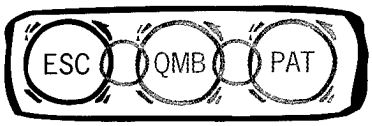
Step 6: Take a systems view.



At the Process Owners (QMB) level with Top Management (ESC) Linking Pin:

A. Study the BMK Team's report in a broader context.

1. Review the BMK Team's report and recommendations.
2. Ensure a common understanding of the theory and actual practice of the process.
3. Analyze the performance gaps.
4. Look at any possible impact on other management and operational processes.

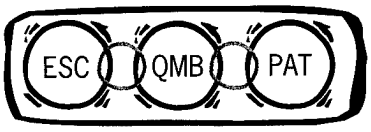


At the Top Management (ESC) level:

B. Make the final recommendations.

1. Study findings and recommendations.
2. Look for any larger "systems" implications.
3. Overlay the organization's vision and future performance projections over the findings and recommendations.
4. Evaluate the policies/rules/regulations that govern the process.
5. Construct final recommendations of benchmarking report with all teams aligned.

Step 7: Communicate benchmarking findings.



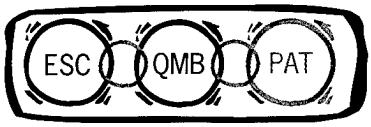
At ALL levels:

A. Communicate widely and deeply throughout the organization.

1. Communicate final benchmarking report and findings to all appropriate levels of the organization.
2. Determine the different audiences and methods to most effectively communicate the report (graphics, statistics, flowchart of the "to-be" model, etc.).
3. Evaluate what customers and/or suppliers need to be informed and supportive.
4. Obtain acceptance/buy-in/support from all levels.

B. Collect and analyze any input/feedback.

Step 8. Establish functional goals.

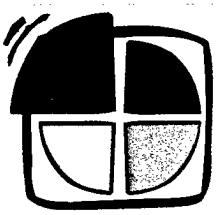


At the Top Management (ESC) and Process Owners (QMB) levels:

A. Write functional goals based on best practices.

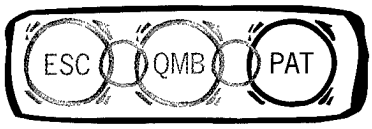
1. Revise/rewrite goals as necessary.
2. Incorporate benchmarking findings into the goals, strategies, and objectives of the strategic plan.
3. Obtain top-level commitment for any strategic changes.
4. Use objective language.

B. Have performance standards and budget allocations reflect new organizational goals.



The Act Phase

Step 9. Develop an action plan, implement procedures, and monitor progress.



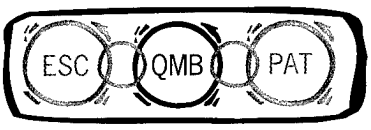
At the BMK Process Action Team (PAT) level with Process Owners (QMB) Linking Pin:

A. Develop suggestions for how to:

1. implement changes needed to achieve results.
2. measure results.
3. monitor feedback.

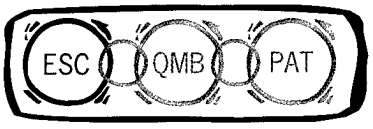
B. Get top-level approval of the action plan.

1. Provide draft action plan to QMB.



At the Process Owners (QMB) level with Top Management (ESC) Linking Pin:

2. Provide proposed action plan to ESC and get top-level approval.

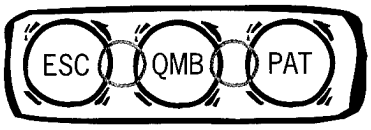


At the Top Management (ESC) level:

3. Approve a formal, standardized, sequenced process for implementing the best practices procedures, monitoring progress, and providing customer feedback.

C. Celebrate successes.

Step 10. Recalibrate.

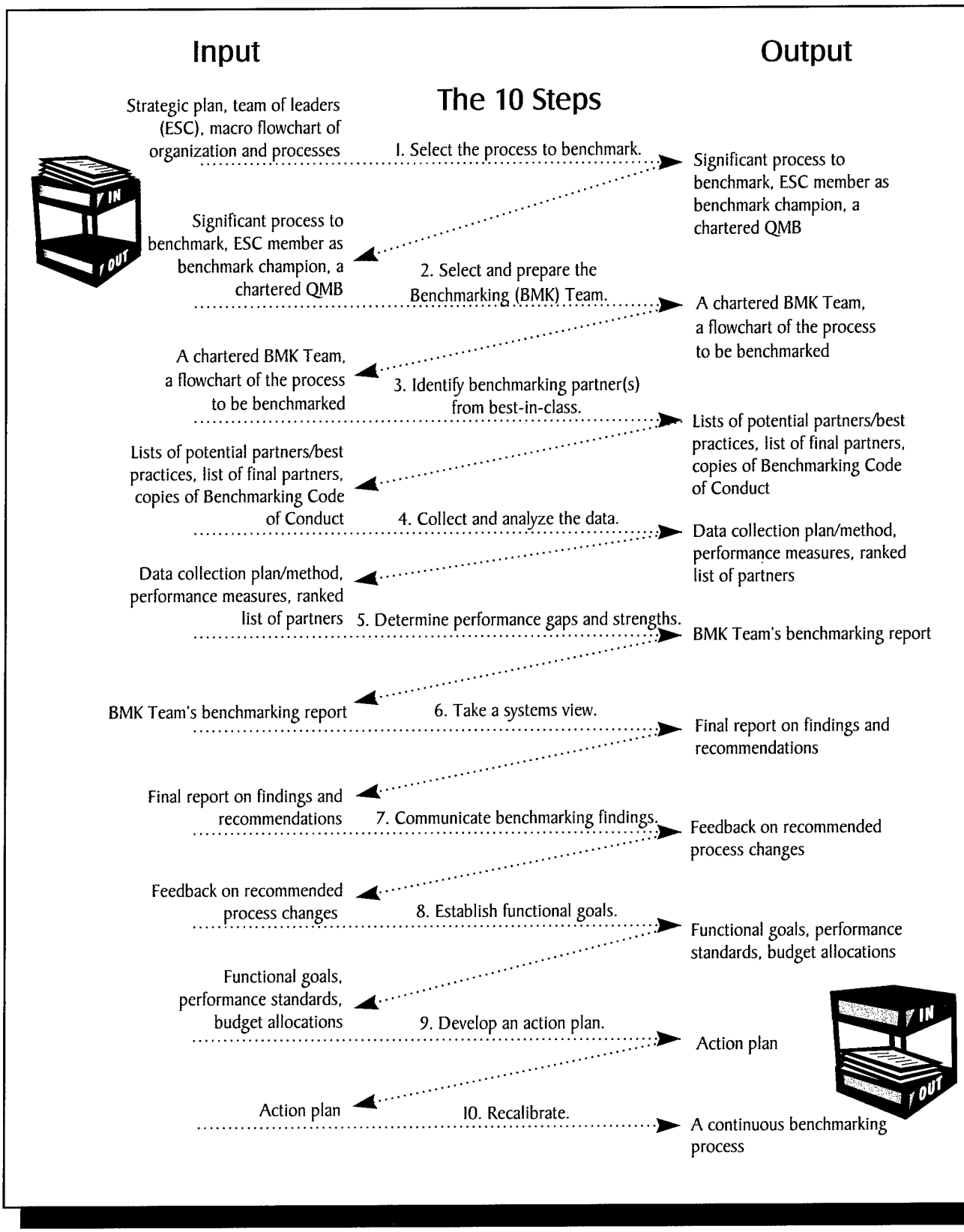


At ALL levels
with Top Management (ESC) oversight:

A. Monitor the benchmarked process.
   1. Confirm strategic alignment.
   2. Constantly monitor customer satisfaction.
   3. Determine if any additional world-class process has emerged.

B. Repeat cycle.

The Department of the Navy Benchmarking Model as a System



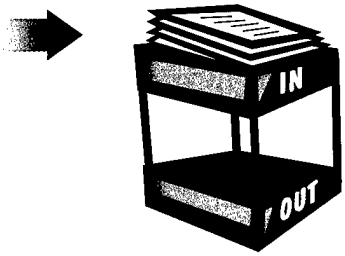
Guidance for Conducting a Benchmarking Study: The 10 Steps

Step 1: Select the process to benchmark.

"Organizations that benchmark with a clear purpose or objective have greater success than those who undertake a benchmarking effort without a sense of purpose or clear direction."

Spendolini, 1991

Input to Step 1:



The organization's strategic plan.

A team of the organization's top leaders (ESC).

A macro flowchart of the organization and its processes.

A. Examine the strategic plan.

The Executive Steering Committee (ESC) is composed of the top leaders and senior managers of the organization. Their leadership, guidance, and support are critical to the success of any benchmarking effort. First, the ESC reviews the strategic plan and identifies the significant processes that support the organization's mission. The ESC looks at the specific goals, strategies, and objectives that are identified as both necessary and sufficient to bridge the gap to attain their desired vision of the organization (Wells and Doherty, 1994). The benchmarking effort has maximum value if every level of the organization can link the importance of the process being benchmarked to the organization's present and future needs. James Staker, director of the Strategic Planning Institute's Council on Benchmarking, observed that when an organization employs its strategic plan to guide the selection of its benchmarking effort, it is "using benchmarking to fundamentally change the business, not just tweak processes" (Biesada, 1992).

B. Evaluate significant business processes.

A *process* is a planned series of activities that results in a specific output. A *significant process* is directly related to mission performance and, if improved, will positively affect organizational effectiveness (*Department of the Navy TQL Glossary*, 1996). Obviously, there is higher payback to the organization and the customer(s) if an organization selects a significant business process to benchmark.

There are standard names used by many businesses and benchmarking organizations to identify core processes and promote common understanding. Some are organized around internal business processes while others are organized around customers. A common language will assist you in developing a solid benchmarking relationship with partners. Also, many benchmarking databases use similar listings of processes to facilitate search efforts. Two such lists appear in the *Supporting Materials* section of this handbook, Part C. These lists can help you identify, name, and categorize a process.

Now the ESC, with the help of its quality advisor, should:

- prepare a list of its organization's significant business processes.
- discuss the strategic implications of each process.
- select one. *Ideally, the improvement of this process doesn't merely solve a problem, but actually improves a product or service provided to your customer(s).*
- look at the current performance levels.
- examine any customer feedback systems already in place.
- determine how the improvement and success of the benchmarking findings will be measured.

A Word of Advice: Organizations that have not engaged in process improvement or have had some false starts with quality initiatives might start out with a "Benchmarking Lite" effort for practice. However, if it means working on a non-core process, *manage resources carefully.* Money and team energy may evaporate quickly and diminish what's available for more significant business process efforts. If a benchmarking effort is a test run, set it up for a limited time period (perhaps 30 but no more than 90 days).

C. Charter a team of process owners (QMB) and identify a benchmarking champion.

A Quality Management Board (QMB) should include *all the process owners* for the selected benchmarking process. The QMB is collectively responsible for the improvement of the process. They own it. The ESC provides the QMB with its charter, which is a written document that describes the purpose, boundaries, expectations, and resources for the benchmarking effort (*DON Team Skills and Concepts,* 1996).

A benchmarking champion should now be identified. A benchmarking champion is a high-level advocate for the benchmarking initiative, who might also serve as a linking pin. A

linking pin, who serves on both teams, should be identified to connect the ESC and the QMB (DON *Team Skills and Concepts,* 1996).

A QMB team leader is typically a mid-level line manager who is accountable for the quality of the product or service being targeted for improvement. A quality advisor (who might also serve as a facilitator for the team) should also be identified to work with the QMB and assist them in developing a "big picture" functional flowchart of the process. Internal and external customers of the process should be identified along with their needs, expectations, and performance measures. The QMB also establishes the charter and sponsors and oversees the efforts of the Benchmarking (BMK) Team.

Note: A QMB that contains the process owners for the benchmarking initiative may already exist. Or, there may be a QMB established that requires only one or two ad hoc members for this effort. The QMB that oversees the BMK Team is not required to have frequent, regularly scheduled meetings throughout this process. They are there primarily to guide, assist, support, and provide resources to the BMK Team as necessary.

D. Identify the type of benchmarking the BMK Team is to use.

The decision to pursue an internal, competitive, functional, or generic type of benchmarking effort is very important. It has a direct effect on the level of effort, the resources needed, the risks to be taken, and the outcome of the project itself. For more details on types of benchmarking, see the *Types of Benchmarking* section of this handbook.

When initially considering a benchmarking partner, an *internal* comparison may immediately leap to mind. For example, to improve a Navy acquisition process, an organization might first think to benchmark against another Navy acquisition process. Or, if you are examining the process of transporting Marine Corps equipment on the East Coast, you might think of comparing that to the Marine Corps process used on the West Coast. But if you reach beyond the obvious, you may find a number of breakthrough improvements that come from approaches used by completely different businesses and industries. Internal partners may only provide parity or a similar or slightly improved practice.

A Word of Advice: Internal comparisons probably won't lead you to benchmarking against the *best* practices. Ford may have the best training process; Hershey Foods might have the best warehouse and distribution process; Sony may have the best product development; Helene Curtis may have the best marketing process. Determine the type of benchmarking and standards carefully.

E. Identify the goals and desired level of improvement.

At this point, the ESC and the QMB need to be clear about their goals and expectations for this benchmarking initiative. Mixed messages will doom the effort. If the ESC wants a significant change in customer satisfaction and is looking to completely reengineer the process, while the QMB is looking for something less dramatic with an incremental change in the process, the benchmarking effort is bound to fail one group or the other. Be realistic and clear about the goals for each and every benchmarking project. Where in the hierarchy of standards should *this* team and *this* effort aim?

A hierarchy of standards
in the search for benchmarking partner(s)

Output of Step 1:

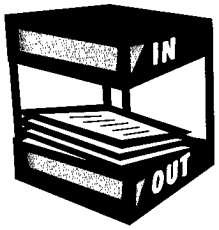
A significant process to benchmark.

A top leader (ESC member) as benchmark champion.

A chartered QMB.

The type and desired level of improvement.

The output of Step 1 is the input for Step 2.



Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- How important is the selected process to the top leaders (ESC) and their strategic plan for the organization?
- How important is the selected process to the process owners (QMB)?
- Are the appropriate process owners on the QMB?
- Is there a QMB already established that can house the BMK Team?
- How important is the selected process to the middle managers?
- How important is the selected process to the working-level employees?
- How important is the selected process to the customer(s) and the stakeholder(s) of the organization?
- Do the top leaders of the organization (ESC) see a similar purpose and vision for the benchmarking study?
- Do the process owners (QMB) see a similar purpose and vision for the benchmarking study?
- Do the customers see a similar purpose and vision for the benchmarking study?
- Is there agreement on the macro flowchart of the process and how it fits into the larger system of the organization?
- What are the *real* expectations and desired results?
- Is there an honest sense of how much change/improvement is possible/desirable?
- Is there agreement on resources to be invested in the benchmarking effort?
- Has this process been studied before? If so, are there documents/records from the prior study?
- Who is the top-level benchmarking champion/sponsor?
- How is this process linked to the organization's strategic plan?

- How is this process linked to the budget?
- How will improving this process increase customer satisfaction?
- Are the top leaders (ESC) and process owners (QMB) committed to support this effort *and its outcome*?
- Have the ESC/QMB identified their goals and the desired level of improvement expected? (In other words, is this aimed at a continuous process improvement level, a good/better/best practice level, or at the world-class process level.)

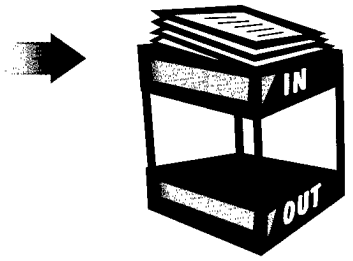
Step 2: Select and prepare the BMK Team.

"The wisdom of teams lies not in encouraging teams for their own sake, but rather in helping those on potential teams have the chance to pursue their own performance challenges."

Katzenbach and Smith, 1993

Input for Step 2:

The input for Step 2 is the output from Step 1:



A significant process to benchmark.

A top leader (ESC member) as benchmark champion.

A chartered QMB.

The type and desired level of improvement.

A. Charter and guide the BMK Team.

The Benchmarking (BMK) Team charter is a document designed by the QMB to guide the team. The BMK Team may be cross functional, and may have various levels of employees working on it. The needs and requirements of the BMK Team are dictated by the process to be benchmarked. The charter will align the expectations of the BMK Team with the QMB and the ESC (DON *Team Skills and Concepts,* 1996). In broad terms, the charter should state:

- the purpose of the team.
- any specific issues/problems/concerns identified by the QMB or ESC.
- their priorities.
- the goals and expectations of the QMB.
- any boundaries or parameters.
- the estimated resources available.
- the reporting requirements.
- the level of decision-making authority of the BMK Team.

In designing the BMK Team, the QMB should consider the size required and any time frames or other limitations that need to be imposed. (Any required changes can be negotiated between the BMK Team and QMB when necessary.) The BMK Team's charter should also provide guidance for any plans of action and milestones (POA&M) that need to be developed.

B. Clarify the roles and responsibilities.

The QMB needs to clarify the BMK Team members' roles and responsibilities.

The team leader:

- serves as the project manager.
- works with the quality advisor/facilitator to design agendas.
- oversees the team's resources and negotiates financial support with the assistance of the QMB linking pin.
- oversees the administration of the project logistics.
- reminds the team of benchmarking protocol, etiquette, and Code of Conduct.

The quality advisor/facilitator:

- serves as the consultant to the team leader.
- provides guidance on how to apply the DON Benchmarking Model.
- enforces the BMK Team's ground rules.
- provides just-in-time training in TQ team skills/tools.
- promotes participation and teamwork.

The linking pin from the QMB to the BMK Team:

- serves as the executive champion and ESC delegate.
- supports the BMK Team members and provides resources when needed.
- communicates up the chain of command.
- provides feedback and recognition for the team's efforts.

Note: The linking pin may also be the benchmarking champion, as described in Step 1c.

The union representative (where applicable):

- serves as a labor partner to management.
- expresses any concerns of union officials.

The information manager/recorder:

- serves as the team's librarian.
- records and keeps the minutes.
- organizes and retains relevant literature and records.

Team members:

Team members need to have an understanding of and experience working with the overall process being benchmarked. Among the members, expertise in one or more of the following areas is necessary to execute the BMK Team's work:

- designing a detailed flowchart of the internal process being benchmarked.
- conducting research projects.
- data collection and analysis methods.
- identifying special causes.
- performance measurement methods.
- technical expertise in the process.
- record keeping skills.
- time keeping skills.
- oral skills for presenting briefs.
- written skills for developing reports.
- a reliable point of contact for the benchmarking partner(s) and the site visit coordinator(s).
- leadership skills for leading teams and fostering teamwork.

Note: Administrative support is a necessary and important element for the BMK Team's success.

A Word of Advice: The individuals selected for the team will have an effect on the overall credibility of the study. A variety of personality types should be included on the team. All the members (the forward thinker and the foot dragger, the extrovert and the introvert, the enthusiastic supporter and the cynic) represent points of view also found in the larger organization and can add substantial value to the final outcome of the benchmarking project.

C. Flowchart the process to be benchmarked.

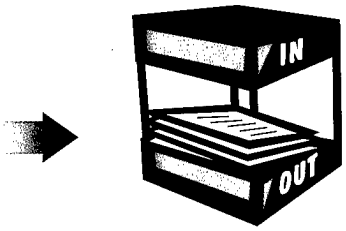
A flowchart (or a process map) is *key* to a common understanding of the current process and also enables the teams to make quick, precise process comparisons. *The flowchart should reflect the "as-is" process, not necessarily the "should-be" process.* Later, this flowchart will be compared to the benchmarking partners' flowchart. Gaps and/or non-value added steps in the process will demonstrate the changes that need to be made.

Output from Step 2:

A chartered BMK Team.

A flowchart of the process to be benchmarked.

The output from Step 2 is the input for Step 3.



Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- How did the QMB ensure that the appropriate employees are on the BMK Team?
- Does the BMK Team charter provide clear guidance for the team?
- Is there a method for changing/adding/deleting BMK Team members if necessary?
- Is there someone on the BMK Team or someone who could be brought in as a resource to ensure that the BMK Team has all the skills and tools it needs?
- Have all members of the BMK Team understood and agreed to their roles and responsibilities?
- Is there a detailed flowchart of the "as-is" process to be benchmarked?

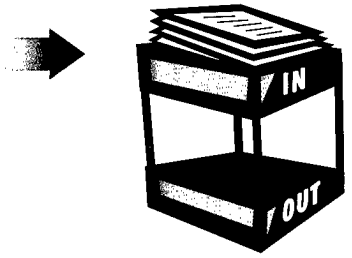
Step 3: Identify benchmarking partner(s) from best-in-class.

"Best management practices refer to the processes, practices, and systems identified in public and private organizations that are performed exceptionally well and are widely recognized as improving an organization's performance and efficiency in specific areas."

General Accounting Office, 1995

Input to Step 3:

The input to Step 3 is the output from Step 2.



A chartered BMK Team.

A flowchart of the process to be benchmarked.

A. Research information sources for best practices.

There are numerous resources available to help identify who is *the best* at a particular process. Many sources are free and within the public domain. *The problem is not so much finding the sources, as quantifying and qualifying them to limit the scope to those most useful to your particular benchmarking effort.* Some sources of primary and secondary information are:

- Department of Commerce
- Library databases
- Newspaper articles
- Internal publications
- Magazine articles
- Trade and industry publications
- Journals
- Seminars
- Professional associations
- Industry experts
- Press releases
- Software/hardware vendors
- Clearinghouses
- University sources
- Released legal documents
- Advertisements
- Literature searches
- Consulting firms
- Plant tours
- Newsletters
- Interviews
- Customer feedback forms
- Databases
- Focus groups

The American Productivity and Quality Center's list of 12 basic information sources for benchmarking is provided in the *Supporting Materials* section of this handbook, Part D. Also check recent winners and finalists for the Malcolm Baldrige National Quality Award, the President's Quality Award, and the Best Manufacturing Practices Center of Excellence Award. The DON Best Manufacturing Practices (BMP) is an excellent resource for locating best practices from industry, government, and academia. See the *Supporting Materials* section, Part A for a more detailed description of its Center for Excellence.

There are many government and private World Wide Web sites available to assist any search. Many provide resources, information, and even software to find best practices, perform a benchmarking study, or tie your benchmarking effort to your strategic plan and performance measures. Here are some that are frequently used for benchmarking and best practices studies:

The Department of Navy's (DON) Best Manufacturing Practices (BMPNET)	http://www.bmpcoe.org
The Inter-Agency Benchmarking and Best Practices Council's Home Page	http://www.va.gov/fedsbest/index.htm
The National Performance Review's BenchNET on FedWorld	http://www.fedworld.gov/ftp/npr-bnch/npr-bnch.htm
The National Performance Review's Home Page	http://www.npr.gov
The DON Total Quality Leadership Office's Home Page	http:/www.tql-navy.org
The Department of Defense's Business Process Improvement On-Line	http://www.dtic.mil/dodim/bpr.html
The Department of Defense's Electronic College for Process Innovation	http://www.dtic.mil/c3i/bprcd/
The Department of Defense's Business Process Reengineering (TurboBPR)	http://www.dtic.mil/c3i/bprcd/3007.htm
The International Benchmarking Clearinghouse (IBC) at the American Productivity and Quality Center (APQC) in Houston, TX	http://www.apqc.org/
The American Society for Quality Control	http://www.asqc.org
The Benchmarking Exchange (TBE) in Aptos, CA	http://www.benchnet.com
The British Quality Network	http://www.quality.co.uk
The Deming Network from Clemson University	http://deming.eng.clemson.edu
The Benchmarking Network	www.well.com/user/benchmar/tbnhome.html
The Department of Energy's Business Practices Benchmarking	http://apollo.osti.gov/html/procure/bnchcler.html
The Strategic Planning Institute Council on Benchmarking	http://www.channel1.com/users/spi/spibmc.html
The Department of Energy, Office of Environmental Management, General Benchmarking	http://www.em.doe.gov/bch/gb.html
Navy Acquisition Reform, World-Class Practices	http://www.acq-ref.navy.mil/practices.html
Performance Benchmarking Service	http://www.iti.org/pbs/index.html

Industry leaders can be identified a number of ways. In 1995, The Quality Network, Inc. published a list of world-class organizations in specific process areas, which included:

- Coors, Southern California, Edison, and Allied Signal in health care management.
- Honda Motor, Xerox, and NCR in purchasing.
- Helene Curtis, The Limited, and Microsoft in marketing.
- Ford, General Electric, and Polaroid in training.
- 3M, Ben & Jerry's, and Dow Chemical in environmental management.

Prepare a list of companies/organizations to possibly benchmark. Ideally, your list of potential partners will have between 5-15 entries. Those companies of special interest to ESC, QMB, or BMK Team members can be used; however, ensure that most potential partners come from your primary and secondary research.

B. Rank potential partners.

After the research is completed, the possible number of partners needs to be narrowed. Investigate, and possibly contact, some potential partners to find out more about their suitability and interest in your effort. In Step 4, each benchmarking partner will be interviewed in more depth via mail, phone, other media, or in person.

The ranking process should be performed with blind company names. This means instead of calling a company or organization by its name (Xerox, Hughes, Bell Atlantic, etc.), use an anonymous heading (Company A, Company B, Company C, etc.). In this way, the final selection will be based *solely on the data collected* about each potential partner's best practices.

An example of 16 companies ranked in a benchmarking study by the Hughes Aircraft Company is included in the *Supporting Materials* section of this handbook, Part E. The highest scores represent the most desirable partners and are underlined. Recommendations are also noted at the bottom of each column to identify which companies rate a site visit, a phone call, a thank you letter, etc.

A less sophisticated matrix that could be used to evaluate the criteria for ranking partners follows.

Sample ranking matrix

Rank companies A through F with points from 1 (for the best) to 6 (for the worst) in each criteria. The lower the total number of points assigned, the better the company ranks.

Criteria	Company A	B	C	D	E	F
Turnaround time						
Rate of error						
Quality of the product						
Level of customer service/satisfaction						
Level of compliance to regulations						
Quality-oriented						
Notoriety (best-in-class, award winners, etc.)						
Timeliness of information						
Production costs						
Innovation						
Budget						
Recommended by others						
Reliability of the source of information						
Totals						

C. Select final benchmarking partner(s).

After you have established your selection criteria and categorized the potential partners into those that are of high, medium, and low interest, identify one single benchmarking partner that is the best-in-class, or select a limited number of partners (usually 1 to 5) that posses significant improvements. *Selecting the partner(s) to benchmark against is a critical decision.* It establishes the level of success you hope to achieve in this benchmarking process. Here, you are setting the standard for comparison. The BMK Team should get approval from at least the QMB level for the final partner(s).

D. Know and use the Benchmarking Code of Conduct.

Because benchmarking requires openness and trust, there are specific principles used to guide the conduct and ethical behavior of all partners. Organizations such as the International Benchmarking Clearinghouse, KPMG Peat Marwick, the Strategic Planning Institute's Council, and Texas Instruments have identified their own principles, many of which are similar or overlap the Benchmarking Code of Conduct. Here is a summary of what the principles cover:

- Keep it *legal.*
- Identify what level of information you are *willing to exchange.*
- Respect the *confidentiality* of all benchmarking information.
- Acknowledge the appropriateness and limitations of the *use* of the information.
- Know who is the appropriate *point of contact.*
- Obtain permission before providing *contacts to others.*
- Demonstrate your professionalism and respect by always being *prepared.*
- Commit to *completing* the study as mutually agreed.
- Know how to *understand* and treat your partners.

Of course, the common sense rules of good business manners also apply. Be realistic and considerate when scheduling an interview or a site visit. Don't waste your partner's time. Limit the size of your team and the number of contacts you make. Respect proprietary information and don't misrepresent any part of the study.

Refer to the detailed principles of the Benchmarking Code of Conduct in the *Supporting Materials* section of the handbook, Part B. Using this is the mark of a true professional in benchmarking and will help establish credibility with potential partners. As world-class organizations, they will be quite familiar with the Code. *We strongly encourage all DON organizations involved in a benchmarking study to learn and abide by every principle in the Code.*

Output from Step 3:

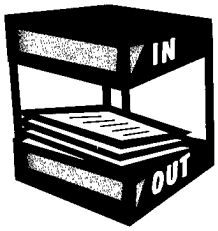
A list of possible benchmarking partners from research sources (approximately 15).

A blind list of potential best practices (approximately 5-15).

A list of the final partners selected (approximately 1-5).

Team copies of the Benchmarking Code of Conduct.

The output from Step 3 is the input for Step 4.



Quality Advisor's Checklist

Before moving to the next step, the Quality Advisor should review the following checklist:

- Have you researched and investigated numerous sources to find *the* best practices?
- Did you select partners without names using a blind, objective scoring system?
- Do you now know who is *the* best-in-class?
- Does everyone involved know and understand the Benchmarking Code of Conduct?
- Are there any issues that need to be reviewed by your organization's legal department?

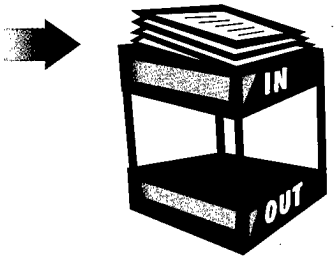
Step 4: Collect and analyze the data.

"If you don't measure it, you don't manage it."

Juran, 1989

Input to Step 4

The input to Step 4 is the output from Step 3.



A list of possible benchmarking partners from research sources (approximately 15).

A blind list of potential best practices (approximately 5-15).

A list of the final partners selected (approximately 1-5).

Team copies of the Benchmarking Code of Conduct.

A. Determine the data collection plan and method.

Now the BMK Team needs to determine a plan and agree on a method to collect data about the benchmarking process and any performance measures to be used for comparison(s), from within their own organization as well as from their benchmarking partner(s). The goal is to collect valid, reliable, objective performance data on the internal process first. Examples adapted from the American Productivity and Quality Center's *The Benchmarking Management Guide* (1993) of how you might measure data within a given process follow:

- *Productivity,* by transactions per unit.
- *Accuracy,* by the error rates.
- *Responsiveness,* by the time intervals.
- *Speed,* by the cycle time.
- *Product stability,* by the engineering change orders per month.
- *Process financial contribution,* by the value-to-cost ratio.
- *Product availability,* by fill rate.
- *Product quality,* by first-pass yield.
- *Capacity,* by volume managed.
- *Service,* by the on-time delivery.

In developing a data collection plan, the BMK Team should answer the following questions:

- What data will give us what we need to know to compare our process with the best-in-class (inventory control, recruitment, procurement, education and training, marketing, etc.) process?
- What kind of information/measurement is necessary (accuracy, quality, customer satisfaction, speed, dependability, etc.)?
- What data exist on the internal process?
- How should the BMK Team collect the data?
- Who on the BMK Team will collect the data?
- How will the BMK Team check its results?
- How much time will be needed to collect the data?
- How will the data be consolidated and analyzed?
- How will we evaluate the satisfaction of the customer(s) of the process?
- What method(s) should be used to collect data from partner(s)?
  - hard copy correspondence (mail/e-mail/fax)?
  - telephone interviews?
  - publications/other media?
  - library and database research?
  - personal interviews/meetings?

Methods of Data Collection

One (or more) of the following methods can be used to collect the data. Following are some guidelines for each method and some advantages and disadvantages of each.

Correspondence

Using hard copy correspondence such as the U.S. Mail service, electronic mail, or fax to collect data is an inexpensive, easy, and time-efficient way to gather this information. However, correspondence limits the ability to probe, and may require follow-on questions. Be aware that some organizations may not give "answering the mail" a high priority.

Telephone

A telephone call is easy to plan and conduct. It facilitates contact with a large number of partners and can be relatively inexpensive. It provides a direct, personal contact with your partner(s). It also provides the ability to get a better sense of the organization and the individual with whom you are dealing. A common problem with telephoning, however, is that it can be difficult to "connect" with the person you wish to speak to (a.k.a. phone tag). In addition, a "cold call" can be time consuming and frustrating for all parties. It is recommended that you send a read-ahead package to prepare your partner(s). Include a suggested date and time and an estimate of the time required for the call to increase your chances of finding your point of contact available and informed. Contact a specific individual and maintain a good working relationship with this person. Explain again who you are and why you are calling. Mention any referrals. Exchange information where appropriate. Establish a follow-up session where necessary.

Publications

Publications and other forms of media, including World Wide Web sites, hold vast amounts of useful information, provide many opportunities to advertise for a partner, and often provide clues as to who may be considered the best-in-class. Magazines and journals often have articles on the pacesetters in a particular process. An ad in the newspaper or a trade paper can be minimally expensive and might solicit some surprising partner(s).

Research

By this point, the BMK Team has already done research to identify partner(s) via the library and database research. The BMK Team members can sift through this information to see what may already be contained and useful for this particular step of the process.

Interviews

Face-to-face contacts through personal interviews and meetings represent a powerful methodology. Conferences, meetings, training sessions, etc., provide informal opportunities to talk to others about what they do and how they do it. But this can become a resource-intensive method of gathering information from possible benchmarking partner(s), and, most importantly, it doesn't guarantee that you will find the recognized world-class organizations. It can also become awkward if the partnership doesn't work out as anticipated.

Site visit

It is possible to have a successful benchmarking study without a site visit. Sometimes through the use of technology, such as teleconferences and a groupware system, the information you need can be acquired at low cost. However, if it is necessary to go to a partner's location, here are some guidelines for the visit:

- Make contact with the appropriate person to provide the proper authority for the visit.
- State the purpose of the visit.
- Verify the suitability of the site.
- Offer a reciprocal visit.
- Identify mutually agreeable date(s) with start and end times.
- Select a limited number of benchmarking team members to visit (2 to 5).
- Send a letter to confirm the visit and include:
  - the date(s)
  - those who will be making the site visit
  - those who you propose to visit at the partner's site
  - a proposed agenda
  - a proposed time frame for visit
  - a flowchart and/or explanation of the process you plan to benchmark
  - the data collection process you plan to use
  - any ground rules.
- Be sure to check on any security check-through procedures.
- Get clear directions on how to get there and where to park.

A Word of Advice: Don't rush off and do the site visit before the benchmarking team is adequately prepared. You want to be sure to use your time (as well as your partner's time) during the site visit effectively and efficiently. Send the right people and be prepared to provide business cards. Listen. Stay focused. Test for a common understanding among all internal and external parties throughout the site visit. Debrief as soon as possible; always debrief one site before you go to another. Neutralize emotions and be objective. You may find some great personalities at some great locations, but how great is their actual process?

Survey

Many organizations use *survey instruments* or a *questionnaire* to help focus the effort and standardize the information collected from various partners. A survey should consist of open-ended questions developed by the BMK Team. The questionnaire should be limited to no more than 15 questions that would take *no more than one hour* to answer.

A newly developed Department of the Navy Total Quality Leadership Office publication entitled *The Survey Handbook* (Houston, 1997) is pending publication at press time. It presents an overview of the activities and issues involved in developing and conducting a survey, and offers tips for writing or modifying survey items to collect useful information. *The Survey Handbook* will be available on the TQLO web page.

Regardless of how contacts with potential partners are made, the same questions should be asked of each partner. This will enable the team to have like-responses for better comparisons. You should be able to answer the same survey questions for your own process. The answers to the survey reveal a lot about an organization's understanding of the benchmarking process as well as about their own business process.

B. Collect and rank the data.

Now the team can actually begin the comparison of its business process against those of a world-class organization. Designated BMK Team members should contact the partner(s) and collect the data based on the plan and methodology developed by the team. After the data are collected, each partner is ranked in performance measurement order. This identifies where your partner's performance is significantly above and below your current performance level.

After collecting the data about the process from the benchmarking partner(s), establish your own ranking and any performance gaps. This provides the basis for performance goal-setting (Step 6). Having a measurement system in place allows you to measure your progress toward the goals.

Partner(s) should be blindly ranked; that is the actual names of the organizations should be replaced with symbols such as Company #1, Company #2, and Company #3, etc., or Organization A, Organization B, Organization C, etc. The example that follows is a simple matrix showing generic performance measures and where each organization, as well as your own, ranks. It uses a 1 (best) to 5 (worst) numbering system. With this method, the team can quickly see which organizations are the best of breed. In this case, the lower the number the better.

Ranking the performance measures of a pharmacy

Performance Measure	Organization A	Organization B	Organization C	Organization D	Our Organization
Operations	1	5	2	4	3
Staff	2	4	1	3	5
Quality	1	3	2	5	4
Cycle time	3	2	1	5	4
Accuracy	1	3	2	4	5
Customer satisfaction	2	1	5	4	3
Product cost	2	1	5	4	3
Totals	12	19	16	30	28

A Word of Advice: The goal in ranking performance measures is to seek direction and categorize partners. Don't spend an inordinate amount of time splitting hairs between which organizations should be rated number 4 or number 5.

Look at the gaps in rankings and try to determine some of the reasons for the gaps. Project any future competitive gaps you may be aware of due to things such as evolving technologies. Camp stresses to look for *balance* in measures, not just cost (Camp, 1996). Things like quality, accuracy, delivery time, asset utilization, and the level of customer satisfaction in products should also be measured and ranked. Summarize the findings for the benchmarking report (Step 5).

C. Train the BMK Team with just-in-time skills/tools as needed.

When you assign the roles and responsibilities that each BMK Team member will have in researching, collecting, analyzing, and documenting the internal and external benchmarking data, consider if they will require specific training to participate. For example, training in:

- survey instrument development.
- use of databases/technology/World Wide Web sites.
- matrix development.
- data collection methods.
- statistical analysis.

Many quality tools are available to assist the BMK Team in data collection and analysis. Those in your organization who have successfully completed the DON TQL *Team Skills and Concepts* course and/or the *Systems Approach to Process Improvement* course are trained in the use of these tools. Contact your TQL coordinator or specialist as needed. Some tools commonly used in benchmarking studies are:

- fishbone diagram.
- matrix.
- pareto analysis.
- histogram.
- affinity diagram.
- scatter diagram.
- run chart.
- storyboarding.
- integrated computer-aided manufacturing definition language (IDEF) modeling.
- cost/benefit analysis.

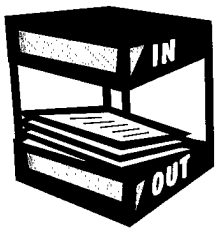
Output from Step 4:

A data collection plan and method.

Quantitative (just the numbers) and qualitative (what the numbers mean) performance measures of the process.

A blind list of partners in order of where they rank in each performance measure.

The output from Step 4 is the input for Step 5.



Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- Will the data collection plan and method provide valid, reliable, and objective performance information on the process?
- Are all BMK Team members collecting data in a similar fashion?
- Is a site visit necessary?
- Were potential partners ranked blindly?
- Does the BMK Team have all the tools and skills necessary to collect and analyze the data?
- Did the BMK Team document, document, and document some more?
- Is there software available that could simplify the data collection and analysis?
- Is there information that can be collected through secondary research without wasting resources?

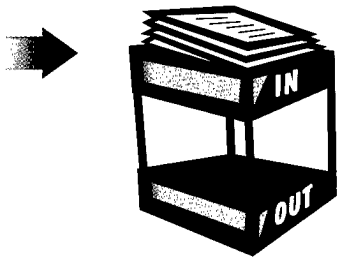
Step 5: Determine performance gaps and strengths.

"The organization sees evidence of what others can do and accepts goals more readily because they are more realistic."

Thor, 1995

Input to Step 5

The input to Step 5 is the output from Step 4.



A data collection plan and method.

Quantitative (just the numbers) and qualitative (what the numbers mean) performance measures of the process.

A blind list of partners in order of where they rank in each performance measure.

A. Analyze performance gaps and strengths.

At this step, the BMK Team, with the guidance and support of the process owner's (QMB's) linking pin, can analyze the gaps between the organization's current process performance and that of the benchmarked partner(s) by:

- analyzing the gaps in your current business process against your benchmarking partner(s) and determining your strengths as well as your areas to target for improvement.
- doing a performance gap analysis with a detailed comparison of the "as-is" process to the "best-in-class."
- listing the best practices and the strengths where benchmarking partner(s) display superior performance.
- showing parity where there are no significant differences.
- describing where your internal practices are superior to the benchmarked partner(s).
- producing the analysis necessary for the benchmarking report and preparing to make recommendations to the process owners (QMB) based on that analysis.
- determining reasons for the gaps.
- projecting any future competitive gaps.
- re-flowcharting your process as a "could-be" process.

B. Produce a benchmarking report.

This report is intended to provide a summary of the benchmarking study, a permanent record for the organization, and an internal communications document. The report can also be used as a foundation for future benchmarking initiatives. It might include the following information:

- A statement of the need/purpose of the benchmarking study.
- The background on the study, which might include:
  - how and why the process was selected
  - how and why the partners were selected
  - charts or current performance measurements.
- The customers of the process benchmarked and any specific customer requirements addressed by the analysis.
- The BMK Team members and the QMB members to whom they reported.
- An illustration of the benchmarking project's calendar and milestones.
- A description of the process as it actually existed at the start of the study (through an outline, flowchart, process map, matrix, charts, or narrative).
- Information sources researched and the criteria used in selecting partners.
- A description of the methodology used to collect the data.
- A data summary or matrix.
- An analysis of the data collected.
- The conclusions and results of the benchmarking study.
- The current performance gaps and strengths.
- Recommendations from the benchmarking team on improving the process.
- Identification of the next steps to be taken.
- Any lessons learned.
- A re-flowchart or updated process map of the new, "could-be" process.

A sample report on the information captured from a benchmarking visit made by Xerox to L. L. Bean, taken from Camp's *Benchmarking* book, is provided in the *Supporting Materials* section of this handbook, Part F.

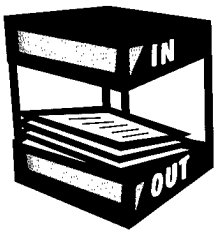
Output from Step 5:

Data collected.

Data analyzed.

The BMK Team's benchmarking report.

The output from Step 5 is the input for Step 6.



Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- What are the strengths of the current process?
- Where can the current process be improved?
- Are the gaps in performance clearly identified?
- Were the gaps understood in terms of their tactical and strategic impact?
- Does the benchmarking report address the issues and concerns found in the original charter?
- Are customer requirements in the benchmarked organization similar or vastly different?

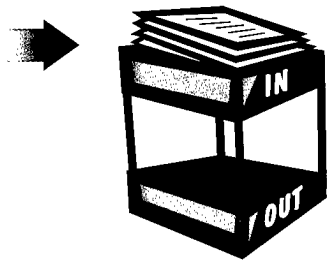
Step 6: Take a systems view.

"A system is a series of functions or activities . . . within an organization that work together for the aim of the organization"

Deming, 1989

Input to Step 6:

The input to Step 6 is the output from Step 5.



Data collected.

Data analyzed.

The BMK Team's benchmarking report.

A. Study the findings in a broader context.

The process owners (QMB) now review the BMK Team's findings and report. First, QMB members ensure a common understanding of the theory behind the process and the analysis of the performance gaps. Then, the QMB takes one step back to look at the bigger picture.

A process consists of interrelated and interacting parts. It is very rarely independent of the other processes and activities in the organization. The inputs, outputs, and outcomes of any process will ultimately impact other processes, and eventually, the aim of the larger organization in some way. *Lack of appreciation and consideration of an organization as a system leads to fragmentation and suboptimization.* Without a conscious effort by the QMB to see the organization as a system that exists in a dynamic environment, the people and processes in the organization could easily diverge in different directions and be at cross-purposes. The QMB needs to look at any possible impact on other management and operational processes, and then present recommendations to the top leaders (ESC).

The ESC can now review the findings and recommendations. At this level, as the managers of the system, it is important to look again for any larger systems implications. The interdependence of various parts of a system is not always obvious and may be widely separated in time and space. Therefore, the actions and consequences of recommended changes to the process need to be examined by the top-level managers who are ultimately responsible for the system and its aim. Evaluate any policies, rules, and regulations that govern the process to clear the path for success.

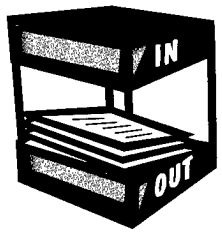
B. Make the final recommendations.

Now the findings and recommendations of the ESC, QMB, and BMK Team should be in alignment. The report, with its findings and recommendations, can be presented to all levels throughout the organization for internal customer feedback.

Output from Step 6:

The final report on findings and recommendations of benchmarking effort.

The output from Step 6 is the input for Step 7.



Questions for the Quality Advisor

Before moving to the next step, the quality advisor should review the following checklist:

- What other processes will this impact?
- Did the QMB and ESC look upstream and downstream of the process to see what else might be affected?
- Who else will be affected?
- Did all the process owners buy in?
- Will the recommendations aid the organization in achieving its aim/mission?
- What are the long-term and short-term costs of implementing this best practice?
- What impact, if any, will it have on the budget?
- How might changes to this process affect the strategic plan and/or strategic goals, strategies, and objectives of the organization?
- Will the people who are working on the process have the motivation and resources to make this successful?

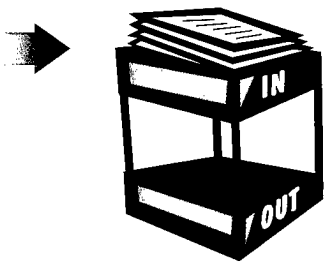
Step 7: Communicate benchmarking findings.

"A man may well bring a horse to the water, but he cannot make him drink."

Heywood, c. 1540

Input to Step 7:

The input to Step 7 is the output from Step 6:



The final report on findings and recommendations of benchmarking effort.

A. Communicate the findings.

Successful change will require a common understanding and a willingness to make the changes work. Communicate the findings of the benchmarking effort and gain acceptance and support widely and deeply throughout your organization and among your customers.

For the internal customers of the process, prepare a presentation of the findings, analysis, and recommendations to achieve the desired goals and results. Be objective and as detailed as the intended audience requires. Have those who will actually be working in the process perform it and provide feedback.

Some ideas to disseminate the information in a different way include:

- Make the benchmarking report a freestanding PC presentation in the lobby/cafeteria.
- Hold one-on-one sessions with key individuals.
- Provide presentations to small and/or large groups with a feedback form and/or a question-and-answer period.
- Have a facilitated discussion within each division.
- Display a flowchart or blueprint that illustrates the "as-is" and "will-be" process.

Evaluate who else should be informed. External customers and stakeholders may also have a need to know and could possibly contribute positively to the changes in your process. *It is extremely valuable to compare feedback data from your customers gathered both before and after the changes are made to help measure success.* Collecting the feedback in a formal way can be as simple as setting up an E-mail

address for the benchmarking initiative or adding a survey to your home page. And don't forget to let your benchmarking partner(s) know the output and outcome of your study. Allow them to share in your success stories.

B. Collect and analyze any input/feedback.

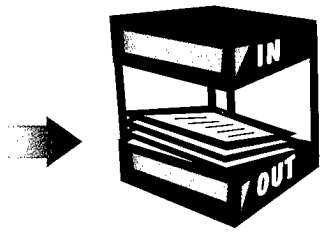
Allow the BMK Team, QMB, and ESC to gather and review any feedback data received from internal/external customers, stakeholders, and benchmarking partners. Not every suggestion needs to be implemented, but they should all be discussed and considered. Some helpful and important information on the process itself and on the chances of successfully implementing changes to the process can be found there.

A Word of Advice: The changes may affect budgets, organizations, and positions. As a result, the findings may receive mixed reviews. "Rice bowl" issues may ensue. To counter attempts at sabotage, proceed carefully but confidently. Use objective language. Your research will validate and justify your proposed changes. And try not to take criticism personally. Change stirs up fears.

Output of Step 7:

Feedback on the recommended process changes.

The output from Step 7 in the input for Step 8.



Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- Have the findings been communicated throughout the organization in a way that promotes understanding and acceptance?
- Has the feedback been looked at and considered by all the BMK Team and QMB members?
- What is the comfort level for support of these changes to the process?
- Was there consensus and commitment to the findings at every level of the organization?
- Was the data collected used to validate and justify the changes?

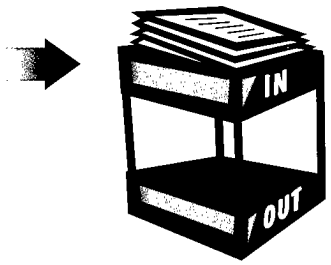
Step 8: Establish functional goals.

"Benchmarking may drive a change in emphasis on which goals are most important. A prioritization may be revealed that was not perceived before . . . the most thorough use of benchmarks would change the absolute value of the goals' metric."

Camp, 1995

Input to Step 8:

The input to Step 8 is the output from Step 7:



Feedback on the recommended process changes.

A. Write functional goals necessary and sufficient to achieve vision using best practices.

Since benchmarks are statements of an industry's best practices, finding them will require a reexamination of an organization's existing functional goals within the context of this new-found information. Functional goals need to be established as a way to translate the benchmarking findings and recommendations into specific statements of how the organization needs to change to meet or exceed the best-in-class. A goal is a statement of a result to be achieved representing a major accomplishment (*DON TQL Glossary*, 1996). Benchmarking goals, based on the findings of the benchmarked practices, will set the stage for changes in the strategies, objectives, and tasks of those who actually work in the process.

The organization should now have specific quantitative and qualitative statements from the benchmarking study, and can work on establishing methods for improvement with the specific information, numbers, and standards extracted from studying the best-in-class. The world-class target in the process is now known.

Considerations to incorporate benchmarking findings may include:

- revising and rewriting functional goals.
- incorporating the benchmarking findings into the organization's strategic goals, strategies, and objectives.
- ensuring that there is no need to adjust the strategic plan itself based on the new knowledge gained from the benchmarking study.

In writing functional goals, the ESC and QMB should:

- specify short-and long-term goals.
- prioritize improvement areas as high, medium, or low levels of significance in scale. Discuss the possible affects on budgets, organizations, and positions.
- explore implications that new goals may have on the mission and resources of the larger organization.

B. Have performance standards and budget allocations reflect new organizational goals.

Change the performance standards, especially those of the process owners, to reflect the new goals and the desired outcomes of the benchmarked process. Those managers and employees who are contributing to attaining these goals and changes should be rewarded through the organization's performance process. Budget allocations are also a reward and can serve as motivation and incentive for others.

Output of Step 8:

Functional goals necessary and sufficient to incorporate benchmarking findings and recommendations into the organization.

Performance standards that reflect functional goals.

Budget allocations that reflect functional goals.

The output of Step 8 is the input for Step 9.

Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- Are all the benchmarking goals necessary to become a best practice in this process?
- Are the benchmarking goals sufficient to make the changes necessary to become a best practice in this process?
- Are the benchmarking goals leading toward the vision of the organization?
- How will the benchmarks be considered and incorporated into future strategic planning?
- How will the benchmarks be considered and incorporated into the future budgetary process?

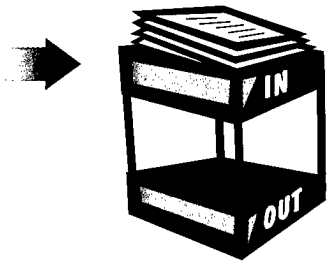
Step 9: Develop an action plan, implement procedures, and monitor progress.

"Developing the action plan is the culmination of the benchmarking team's work. At this stage, the team must identify the ways in which the knowledge gained during the benchmarking process can be applied to improve the organization."

Dutile, 1993

Input to Step 9:

The input to Step 9 is the output from Step 8.



Functional goals necessary and sufficient to incorporate benchmarking findings and recommendations into the organization.

Performance standards that reflect functional goals.

Budget allocations that reflect functional goals.

A. Develop the "how to."

In developing an action plan to implement procedures and monitor the progress of the benchmarking initiative, the BMK Team looks at how to:

- achieve desired results.
- measure the results.
- monitor feedback on the process changes.
- identify the differences in tasks necessary to implement the process changes.
- identify necessary training.

The QMB determines how to:

- achieve and measure the results.
- obtain and monitor the feedback.
- allocate resources necessary to support the effort (money, people, equipment, materials, training, etc.).
- propose the action plan to the ESC.

A draft action plan is then presented to the ESC.

B. Get top-level approval of the action plan.

Once the actions have been evaluated and the plan to implement the changes designed, the ESC must sanction a formal, standardized, sequenced process for the implementation of the best practices. The action plan, with milestones for monitoring progress and obtaining customer feedback, should now be approved by the ESC.

The ESC should allow the process owners (QMB) to manage the changes and hold them accountable. Implementation requires a commitment to change and systems in place to support that change, more than just meetings, briefings, and plans that address the change. The QMB members own the process and are responsible for determining how the effectiveness and efficiency of the new practices will be measured. Lessons learned should be shared throughout the organization.

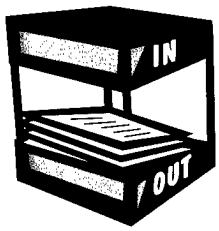
C. Celebrate successes.

Don't be shy about celebrating and rewarding success. Feedback, praise, and rewards can prove to be great motivators. The organization will have an easier time doing the next benchmarking project if this one goes well.

Output of Step 9:

Action plan.

The output of Step 9 is the input for Step 10.



Quality Advisor's Checklist

Before moving to the next step, the quality advisor should review the following checklist:

- Is the action plan clear?
- Does the action plan show how the gaps in performance will be closed?
- Does the action plan lead to necessary and sufficient changes?
- Has the QMB supported and praised the BMK Team for its work and recognized its accomplishments?
- Has the ESC supported and praised the QMB for its work and recognized its accomplishments?
- Is the organization ready to support and successfully implement the changes to the process?
- Is a process in place to implement this action plan?
- Are funds and rewards in place to implement this action plan?

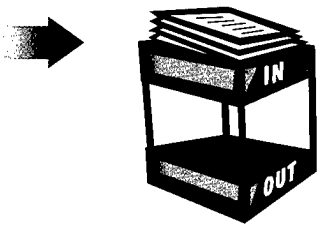
Step 10: Recalibrate.

" The recalibration process [is] so necessary to stay current with changing conditions and the process for reaching a mature benchmarking position that yields superior performance."

Camp, 1992

Input to Step 10:

The input to Step 10 is the output from Step 9.



Action plan.

A. Monitor your best practices process.

Once superiority is attained, the need for improvement still exists. Other organizations will benchmark your success and overtake you. To maintain superiority, the need remains for a continuous focus on improvement.

Recalibration means to reset the graduation marks used to indicate and calculate values. The new values become internal measurements for the next benchmarking effort. Review the completed benchmarking study and establish a new process baseline. Continue to monitor your current best practice against others. By recalibrating existing benchmarks based on potential and known new technologies and practices, the organization maintains its place at the forefront of quality, efficiency, and profitability. This sustained level of leading industry practices is the true aim of benchmarking.

B. Repeat cycle.

Once the benchmarking project is complete, start over. Have ongoing visits with your benchmarking partner(s). Environments evolve, technologies advance, new regulations are introduced. Competitors arise from unsuspected areas.

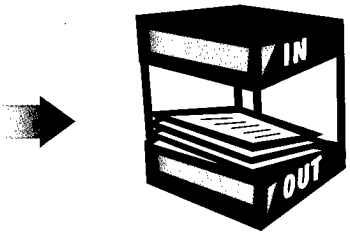
Recalibration doesn't just happen; it must be planned. There are no hard and fast rules on the frequency. One approach would be to recalibrate annually. A shorter timeframe would not be worthwhile since a best practice probably won't change that fast and the benchmarking process itself will probably take months to perform. If an organization reviews its strategic plan annually or semiannually, this may produce an opportune time to recalibrate benchmarks. Recalibration beyond three years will probably become a massive exercise.

The recalibration process means reexamining *all* 10 steps of the DON Benchmarking Model. No step should be skipped or assumed not necessary to repeat.

Many business processes can benefit from benchmarking. Expose and encourage the organization to learn more about the benchmarking process. For example, Xerox Corporation has trained thousands of employees, including most managers, in benchmarking practices. Managers and employees throughout the organization are empowered to initiate and conduct their own benchmarking projects. "This proliferation of trained and experienced employees results in a virtual continuous state of benchmarking activity across all departments, locations, and divisions . . ." (Spendolini, 1992).

Output of Step 10:

A continuous benchmarking process.



. . . and in conclusion

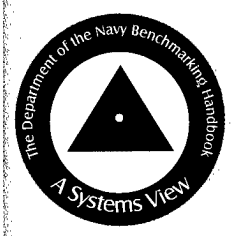
Benchmarking has enjoyed enormous success and has become big business. There are many software packages, training courses, and networking opportunities available on the subject. As you explore these materials you will realize that there is no one, single right way to benchmark. However, a word of advice: you should not try to pick and choose among your favorite models like a restaurant menu. The sum of each model is greater than its parts. Stick to one you feel comfortable with and see it through. Shortcuts are a recipe for suboptimization and disaster. Remember Deming's cautionary words: *Do not copy* and *Do not tamper.*

The Department of the Navy Benchmarking Handbook: A Systems View was written to complement the Department's total quality approach to leading and managing. It addresses the *what* (significant processes), the *why* (to enhance mission performance), the *how* (10 steps), and the *who* (ESC, QMB, and BMK Team members) of benchmarking.

All too frequently, BMK Teams are expected to perform a study without adequate guidance from the process owners (QMB) or the top leaders (ESC) of the organization. Be advised that when surveyed by the American Productivity and Quality Center (APQC), companies listed poor planning, no top management support, no process owner involvement, and insufficient benchmarking skills as the top causes for benchmarking study failures (APQC, 1993). Managers should be active participants in this process without micromanaging the business process itself.

This handbook also addresses the relationship of benchmarking to strategic planning. As an organization implements its strategic plan, it should employ benchmarking to ensure that process improvements lead to world-class performance. The information that ultimately results from these initiatives can be invaluable in updating the strategic plan to recognize changing trends, new technologies, and other drivers.

Benchmarking is not for every organization. Although the gains can be great, it requires specific skills, dedicated resources, and a commitment from leadership to support the outcome. Leaders need to assess how ready and willing their organization is to accept the many challenges of this demanding but rewarding process. For those willing to accept the challenges, benchmarking provides an enormous opportunity for innovation and creativity in accomplishing the organization's mission and becoming recognized as a world-class industry leader.



Supporting Materials

The following supporting materials are provided to clarify and enhance your understanding of the benchmarking process. Use these valuable resources throughout your benchmarking journey.

A• The Department of the Navy's Best Manufacturing Practices Program

B• The Benchmarking Code of Conduct

C• Lists of Business Processes

D• Library Sources of Information

E• A Benchmarking Scoring Example

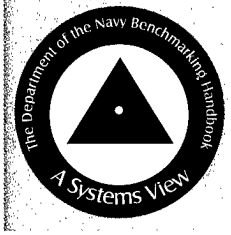
F• A Benchmarking Report Example

G• Experts in the Field

H• Glossary of Terms

I• Bibliography

J• About the Author



A • The Department of the Navy's Best Manufacturing Practices Program

Since 1985, the Department of the Navy's (DON) Best Manufacturing Practices (BMP) Program has been networking and partnering with industry, government agencies, and universities, observing and validating best practices using impartial teams of experts. The primary objective of the DON BMP program is to identify best practices, document them, and then encourage industry and government to share information about them. It serves as an honest and objective broker, as well as a national focal point for benchmarking information and sharing. Their vision statement, prepared in 1995, is:

"To provide a national resource to foster the identification and sharing of best practices being used in government, industry, and academia; and to work together through a cooperative effort aimed at strengthening the U.S. industrial base and its global competitive position."

The DON BMP efforts have led to the development of useful software tools based on best practices. This family of expert systems is known as the Program Manager's Work Station (PMWS) and is widely used by industry and government for technology transfer, to minimize risk in the product development process, and to improve manufacturing efficiencies.

In addition to identifying process, practices, and partners of all types, the network focuses on *large* companies and organizations in government, industry, and academe. Many tools for benchmarking are available including surveys, the electronic network, special interest groups, and workshops. Some sample reports of surveys conducted by the BMP include:

- City of Chattanooga, Chattanooga, TN, April, 1996.
- Lockheed Martin Government Electronics Systems, Moorestown, NJ, October, 1995.
- Dayton Parts, Inc., Harrisburg, PA, June 1995.
- Rockwell Defense Electronics Collins Avionics and Communication Division, Cedar Rapids, IA, April, 1995.
- Naval Undersea Warfare Center Division Keyport, Keyport, WA, May, 1994.
- Stafford County Public Schools, Stafford County, VA, August, 1994.
- Nascote Industries, Inc., Nashville, IL, July, 1996.

Reports focus on *what* is being done vice *how* it is being done, and some of the information is proprietary.

Their electronic network, called BMP*NET, provides free access to information on best practices. It is also available through an Internet home page at http://www.bmpcoe.org. Features of this network include:

- program manager work station (PMWS).
- special interest group areas (SIGs).
- access to publications and technical guidelines.
- a calendar of events.
- a file transfer option.
- on-line conferencing.

The BMP Center of Excellence is sponsored by the DON in collaboration with the Department of Commerce and the University of Maryland. For more information, contact:

Best Manufacturing Practices Center of Excellence
4321 Hartwick Road
Suite 308
College Park, MD 20740
telephone 800-789-4237
fax 301-403-8180

B • The Benchmarking Code of Conduct

Benchmarking—the process of identifying and learning from best practices anywhere in the world—is a powerful tool in the quest for continuous improvement.

To contribute to efficient, effective, and ethical benchmarking, individuals agree for themselves and their organizations to abide by the following principles for benchmarking with other organizations:

Keep it legal.
Be willing to give what you get.
Respect confidentiality.
Keep information internal.
Use benchmarking contacts.
Don't refer without permission.
Be prepared at initial contact.

1. **Principle of Legality.** Avoid discussions or actions that might lead to or imply an interest in restraint of trade: market or customer allocation schemes, price fixing, dealing arrangements, bid rigging, bribery, or misappropriation. Do not discuss costs with competitors if costs are an element of pricing.

2. **Principle of Exchange.** Be willing to provide the same level of information that you request, in any benchmarking exchange.

3. **Principle of Confidentiality.** Treat benchmarking interchange as something confidential to the individuals and organizations involved. Information obtained must not be communicated outside the partnering organizations without prior consent of participating benchmarking partners. An organization's participation in a study should not be communicated externally without their permission.

4. **Principle of Use.** Use information obtained through benchmarking partnering only for the purpose of improvement of operations within the partnering companies themselves. External use or communication of a benchmarking partner's name with their data or observed practices requires permission of that partner. Do not, as a consultant or client, extend one company's benchmarking study findings to another without the first company's permission.

5. Principle of **First Party Contact.** Initiate contacts, whenever possible, through a benchmarking contact designated by the partner company. Obtain mutual agreement with the contact on any hand off of communication or responsibility to other parties.

6. Principle of **Third Party Contact.** Obtain an individual's permission before providing their name in response to a contact request.

7. Principle of **Preparation.** Demonstrate commitment to the efficiency and effectiveness of the benchmarking process with adequate preparation at each process step, particularly at initial partnering contact.

C •

Lists of Business Processes

The following list of processes has been prepared by the Benchmarking Exchange for use in its best practices database. The list was developed to provide a common language for the business community. For more information, contact the Benchmarking Exchange at 7960-B Soquel Drive, Suite 356, Aptos, CA, 95003; telephone 800-662-9801.

Accounting General
Accounts Payable
Accounts Receivable
Advertising
Asset Management
Automation
Benchmarking
Billing and Collection
Budget
Change Management
Communication System
Community
Compensation
Complaint Handling
Concurrent Engineering
Contracting
Corporate Relations
Credit Management
Customer Focus
Customer Relations
Customer Requirement
Customer Satisfaction
Customer Service
Delivery
Design for Assembly
Direct Mail
Distribution
Document Control
Employee Benefits
Employee Communication
Employee Development
Employee Empowerment
Employee Involvement
Employee Recognition
Employee Recruiting
Employee Satisfaction
Employee Suggestions
Engineering
Entrepreneurship
Failure Analysis
Finance
Franchising
Health & Safety
Help Desks
Human Resources
Industrial Design
Information Systems
Invention
Inventory Management
Investor Relations
ISO9000
Leadership
Maintenance
Management
Manufacturing
Marketing
Materials Management
Networking Systems
Operations
Order Fulfillment
Other
Payroll
Plant & Equipment
Private Fleet
Process Improvement
Process Management
Producibility
Product Design
Product Development
Product Management Production
Production
Project Management
Public Relations
Purchasing
Quality
Quality Assurance
Quality Control
Quality Improvement
Reengineering
R&D
Risk Management
Robotics
Sales
Self-Directed Teams
Service
Simulation
Small Business
Staffing
Strategic Planning
Supplier Management
Tax & Tariffs
Technology
Telecommunications
Testing
Training
Transportation
Travel & Expense
Vendor Relations
Warehousing
Warranty
Waste Management
Workforce Diversity

—Used with permission of the Benchmarking Exchange.

The following list of business processes was prepared by The Quality Network, Inc. It describes processes in terms of customer and support. The Quality Network, Inc. has developed a database based on these process names to provide a common language for users as they search for information about business functions. For more information, contact The Quality Network, Inc. Park Central, Suite F, 110 Linden Oaks Drive, Rochester, NY, telephone 716-248-5712.

Customer Processes

Market Management
- Market Planning
- Product Planning and Development
- Pricing
- Market Tracking
- Product Life Cycle Management
- Marketing Communications

Customer Engagement
- Sales Territory Planning
- Prospecting Management
- Enterprise Management
- Agreement Development
- Agreement Management
- Customer Support

Order Fulfillment
- Order Processing
- Scheduling
- Customer Preparation
- Staging and Pre-Installation
- Delivery/Removal
- Installation/Deinstallation
- Product Production

Billing and Collection
- Invoicing
- Banking Operations
- Cash Application
- Collection
- Third Party Leasing Administration

Product Maintenance
- Service Call Management
- Service Dispatching
- Product Servicing
- Service Call Closure
- Product Maintenance Planning
- Equipment Performance Monitoring
- Technical Information Provision
- Service Territory Planning

Support Processes

Financial Management
- Financial Planning
- Financial Analysis and Reporting
- Financial Outlooking
- Tax Planning and Management
- Accounting Operations
- Financial Auditing
- Disbursements
- Financial Asset/Cash Planning
- Financial Asset Control

Human Resource Management
- Manpower Requirements Planning
- Hiring and Assignment
- Benefits and Compensation Management
- Personnel Management
- Work Force Preparedness Employee Communication

Inventory Management and Logistics
- Physical Asset Acquisition
- Inventory Management
- Physical Asset Planning
- Logistics Planning
- Logistics Operations
- Logistics Engineering
- Vendor Management

Business Management
- Business Strategy Development
- Business Planning
- Business Process and Operations Management
  - Process Specification
  - Coordination and Integration
  - Inspection
  - Benchmarking
  - Process Improvement

Information Technology Management
- Information Strategy Planning
- Systems Analysis and Design
- Systems Development
- Production Systems Support
- Research and Development
- Business Systems Management and Coordination

D • Library Sources of Information

The American Productivity and Quality Center (APQC) has published this list of 12 basic information sources that are recommended for your organization's library. Many of them are available in your public library. The APQC is located in Houston, Texas, and can be reached at 800-776-9676.

Twelve Basic Information Sources for your Company's Library

1. *Standard & Poor's Register of Corporations, Directors, and Executives:* This three-volume listing of basic information about corporations and business executives is a research must for locating companies.

2. *Thomas Register of American Manufacturers:* This 25-volume set is the standard guide for buying and selling products in America.

3. *Principal International Businesses:* This annual listing of the principal public and private companies in 133 countries is published by Dun & Bradstreet.

4. *Directories in Print:* This Gale Research company directory lists over 10,000 business and industrial directories. Almost every industry has a directory that provides a detailed overview of the industry and business-specific performance statistics.

5. *Encyclopedia of Associations:* This Gale Research book lists publications of business, trade, and professional associations.

6. *Subject Directory of Special Libraries and Information Centers:* This Gale Research book provides information about company libraries and the libraries at research centers, associations, and unions.

7. *Directory of On-line Data Bases:* Cuadra/Elsevier has compiled a descriptive listing of on-line data bases and services for locating specific types of information.

8. *Moody's Manuals:* Moody's Investors Service publishes eight financial manuals that provide public financial information about specific organizations in the United States as well as internationally. The most widely used manual is *Moody's Industrial Manual* containing corporate history, capital structure, financial statements, and a discussion and analysis of management. Moody's has its own electronic information service and weekly news bulletins.

9. *Value Line Investment Surveys:* Value Line is an investment advisory service which provides financial analysis of 1,700 stocks from 95 industries.

10. *Business Periodicals Index:* This index, published by H.W. Wilson Company, abstracts information that appears about companies in the most important business journals.

11. *Wall Street Transcript:* This service provides information about specific companies and industries from articles and columns published by Dow Jones in the *Wall Street Journal.*

12. *U.S. Industrial Outlook:* This Department of Commerce publication tracks the trends in American business. The Washington Service Bureau retrieves government publications.

—Used with permission
of the American Productivity & Quality Center.

E • A Benchmarking Scoring Example

Examples of Scoring Benchmarking Partners

Below is an actual example from May 1996 of 16 companies ranked in a benchmarking study done by Hughes Aircraft Company. Notice that the high scores in each key word category are underlined. The high scores identify those questions where answers were rated with a 4 (something to learn) or 5 (world class) as illustrated in the Rating Scale below. Recommendations are provided at the bottom of each column to identify which companies rate a site visit (Company 2, 4, 6, 10, 11, 13), or a phone call (Company 3, 5, 8, 12, 14, 15, 16), or a thank you letter (Company 7, 9).

Benchmarking Scoring of Company Responses

Rating Scale

1	2	3	4	5
Much Behind Us	Behind Us	Like Us	Something to Learn	World Class

Questions					Companies							
#	Key Word	Rating Order	Ranking		Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Company 7	Company 8
1	Business	5	6	0	Just Like Us	Not Like Us	Not At All Like Us	Not Like Us	Like Us	Like Us	Just Like Us	Not Like Us
2	Population	6	3	20	60	80	40	40	80	80	60	60
3	Process	1	1	40	120	160	120	160	80	160	120	120
4	Head Count	7	2	20	60	60	40	20	20	40	60	80
5	Metrics	2	5	5	15	10	20	10	5	10	15	10
6	External Service	3	7	5	15	25	15	15	15	15	15	15
7	Outsourcing	4	4	10	30	50	30	50	40	20	10	40
			Total	100	300	385	265	295	240	325	280	325
			Recommendation		N/A	Visit Priority 1	Phone Call	Visit Priority 2	Phone Call	Visit Priority 2	Thank you Letter	Phone Call

Questions					Companies							
#	Key Word	Rating Order	Ranking		Company 9	Company 10	Company 11	Company 12	Company 13	Company 14	Company 15	Company 16
1	Business	5	6	0	Like Us	Just Like Us	Not Like Us	Not Like Us	Just Like Us	Like Us	Like Us	Not Like Us
2	Population	6	3	20	40	60	60	40	60	60	60	80
3	Process	1	1	40	120	160	200	160	160	120	120	120
4	Head Count	7	2	20	60	20	20	40	80	60	60	80
5	Metrics	2	5	5	15	15	20	15	15	10	15	20
6	External Service	3	7	5	15	25	15	15	15	15	15	15
7	Outsourcing	4	4	10	30	10	40	10	30	10	40	30
			Total	100	280	290	355	280	360	275	310	345
			Recommendation		Thank You Letter	Visit Priority 3	Visit Priority 1	Phone Call	Visit Priority 1	Phone Call	Phone Call	Phone Call/ Possible Visit

F • A Benchmarking Report Example

The L.L. Bean Experience

On return to Rochester, New York, from the visit to L.L. Bean's operation in Freeport, Maine, the findings of the trip were documented in a trip report. The trip report was assembled from input of the three attendees and had their collective concurrence on what was observed. The analysis then focused on describing in a comparative fashion how L.L. Bean's practices differed from internal operations and why.

The practices were analyzed first qualitatively to reveal significant differences and potential opportunity. The analysis quickly showed a level of use of computer capability to direct the operational activities that was substantially beyond those used in internal operations. These in turn, with validation from other benchmarking visits and investigations, were developed into a statement of industry best practices as shown in [the table on the next page]. The specific activities observed at L.L. Bean's distribution center included:

- Incoming materials, usually in carton quantities, were put away into storage rack locations randomly wherever the computer determined there was an empty slot. This practice relieved the operation of having to remember or search for space of adequate size to accept the number of cartons needing storage. The cubic capacity of rack space was more fully utilized and the put-away travel distance minimized.
- Materials were arranged for picking by velocity of movement, that is, by daily order activity. The fast movers were then stocked closest to the beginning of the picking route. With some exceptions bulky items were stocked further away to conserve space for more items closest to the route. The effect was to minimize picker travel distance.
- Once the materials were located by historical velocity, the orders received throughout the day were accumulated for a given period, perhaps hourly, and then sorted and scheduled by computer to ensure efficient picking. This practice, known as short interval scheduling, was used to minimize picker travel distance. It accumulated close-by items into a route and routed the picker the minimum distance to fill a picking cart. It also accumulated the total quantity of the same items for all orders in that route to require only one trip to a bin location. The items were then sorted into each order's slot on the cart. At the end of the day those orders that fell significantly outside an efficient target travel distance were routed together.
- L.L. Bean, like many warehouse operations with substantial outbound movement by package carriers, documented the weight and dimensions of each item stocked. The weight permitted calculation of UPS delivery charges before the material was shipped. This allowed L.L. Bean to pay transportation charges based on their records, which were accepted by the carrier, and precluded reconciliation and payment after the fact, as is common practice.

- Because of the level of computer routing and scheduling for operational purposes, a secondary benefit was the activity tracking that also was available. L.L. Bean developed and installed an incentive bonus pay system that was based on a merit-demerit scheme. An individual or team would earn credit for the productivity level of actual picks but would receive debits for error rates in picking the items per order. The latter was determined by a sampling and inspection procedure.

The level of computer-directed activities was therefore significantly higher than found in [internal] parts and supplies warehouses and determined a gap that, when combined with other industry best practices, eventually needed to be addressed. In addition to the practices that were directly observed, the benchmarking visit also uncovered several areas where additional, new methods were to be shortly installed. The planned improvement with the greatest potential was the installation of bar coded labels for automatic data capture. The trip therefore revealed both currently existing as well as planned benchmark practices.

Statement of Industry Best Practices

Process Step
Receiving
▮ On-line receiving input, reconciliation to purchase order, and status through CRT located at receiving dock.
Put-Away
▮ Predetermined, random put-away location, sequenced to minimize distance traveled.
▮ 100 percent put-away verification through cross-reference of rack location and item bar codes.
Picking
▮ Interactive, on-line pick planning to minimize picker travel distance and maximize shipping container capacity utilization.
Stock Relocation
▮ Automatic relocation of inventory items to coincide with order per day velocity.
Pick Area Replenishment
▮ Automatic replenishment of picking locations from reserved stock based on preassigned thresholds, or on demand by key entry.
Shipping
▮ Automatic package sortation to correct carrier at shipping dock through label scanner.
▮ Automatic shipping document preparation from predetermined weight and label scan.
Other Preparation
▮ Productivity and order fill error rate analysis by area, team, and individual.
▮ Real time, transaction based, inventory update, and control or warehouse operations.

G • Experts in the Field

Following is information on three experts in the field of benchmarking. This is not a complete list, nor an endorsement for any particular expert. But when starting up a benchmarking initiative, it is useful to read some of the materials published by these and other experts, and/or attend benchmarking courses or seminars.

Camp

Robert C. Camp is an engineering graduate of Cornell University where he also earned a Master's Degree in business. He received a Ph.D. from Pennsylvania State University in logistics and operations research. He worked for Mobil Oil and DuPont, and for 17 years was with Xerox Corporation in its logistics operation where he started the benchmarking program. Camp served as adjunct professor of marketing logistics at the Rochester Institute of Technology. He is the author of *Benchmarking: The Search for Industry Best Practices That Lead to Superior Performance* (1989) and *Business Process Benchmarking: Finding and Implementing Best Practices* (1995). Camp is the owner and founder of The Quality Network, Inc.

Spendolini

Michael J. Spendolini is the founder and principal of MJS Associates, an organizational development and training consulting firm in Laguna Beach, CA. He is one of the managing directors of The Benchmark Partners, Inc., located in Oak Brook, IL. Spendolini has held a number of managerial positions at Xerox Corporation and is a recognized expert on total quality management and benchmarking. He received his Ph.D. from the University of California, Irvine. He regularly teaches benchmarking courses through the American Management Association (AMA) and is the author of *The Benchmarking Book* (1992).

Watson

Gregory H. Watson is the Vice President of Quality in the Office Document Products Division of the Xerox Corporation. He was previously Vice President of Benchmarking Services at the American Productivity and Quality Center (APQC). Watson is the author of the following books on benchmarking: *Strategic Benchmarking: How to Rate Your Company's Performance Against the World's Best* (1993), *The Benchmarking Workbook: Adapting Best Practices for Performance Improvement* (1992), *Planning, Organizing and Managing Benchmarking Activities: A User's Guide* (1993), *The Benchmarking Management Guide* (1993), and *Benchmarking for Competitive Advantage* (1993).

There are many books, courses, articles, and other publications that have been written on benchmarking. For more references, see the *Bibliography* section of this handbook.

H • Glossary of Terms

This Glossary of Terms is taken from the Department of the Navy TQL Glossary (1996). Terms marked with an asterisk (*) were developed specifically for this handbook.

B

benchmark — To take a measurement against a reference point that can be observed or studied.

benchmarking — A strategic and analytic process of continuously measuring an organization's products, services, and practices against a recognized leader in the studied area.

*best-in-class — Those organizations that perform a particular function or service more efficiently and more effectively than other organizations.

*Best Manufacturing Practices (BMP) — See Department of the Navy's Best Manufacturing Practices.

*best practices — The methods used in work processes whose output best meets customer requirements (Spendolini, 1992).

*BMK — Frequently used abbreviation for the word "benchmarking."

*BMK Team — A team of high performance process experts, chartered to perform a benchmarking study on a particular process. The team may be cross-functional and/or represent various levels of an organization. Individuals are selected based on their particular skills and abilities in the process to be benchmarked. The BMK Team is assisted by an expert in the benchmarking process itself.

C

*champion — A high-level advocate for benchmarking initiatives.

charter — A written document that describes the boundaries, expected results, and resources to be used by a quality improvement team.

consensus — A decision by a group that is acceptable to them, but is not necessarily unanimous nor arrived at by a majority vote. All members support the decision, even without universal agreement.

cross-functional team — A team whose membership includes those from more than one organizational function and who have responsibility for some portion of an identified process.

customer — The person or group who establishes the requirements of a process and receives or uses the output of the process. (Also see external customer, internal customer, end-user, and stakeholders.)

customer feedback system
: A system used by organizations or groups to obtain information from customers about relevant quality characteristics of products and services.

D

data
: Information, especially information organized for analysis, used as the basis for decision-making.

data collection plan
: A plan that provides guidance for gathering information. It establishes the why, who, what, how, where, and when of data collection.

**dantotsu*
: A Japanese word that means to strive to be the "best of the best."

*Department of the Navy's Best Manufacturing Practices (DON BMP)
: A center for excellence sponsored by the DON, in collaboration with the Department of Commerce and the University of Maryland, whose purpose is to network and partner with industry, government agencies, and universities to identify and coordinate best practices through reports, site visits, databases, and software tools.

E

end-user
: The person for whom a product or service is intended. That person may be the user and/or buyer of the product or service.

*Executive Order #12862
: Entitled "Setting Customer Service Standards," this directive was provided to establish and implement customer services standards throughout all branches of government. One of its action areas was to benchmark customer service performance against the best in business.

Executive Steering Committee (ESC)
: The team of top leaders and guiding members of an organization who comprise the highest-level quality improvement team in the organization.

external customer
: An individual or group outside the boundaries of the producing organization who receive or use the output of a process.

F

facilitator
: A person who guides and intervenes to help a group or team process a tasking.

facilitation
: A process in which a person who is neutral and has no decision-making authority intervenes to help a group improve the way it identifies and solves problems and makes decisions, in order to increase the group's effectiveness.

flowchart — A schematic diagram that uses various graphic symbols to depict the nature and flow of the steps in a process. The flowcharts can be drawn to represent different levels of analysis, e.g., macro, mini, and micro.

G

gap — In the context of *statistical sampling,* a gap is the portion of the universe not included in the frame. The larger the gap, the higher the risk of invalid results. In the context *of strategic planning,* a gap is the difference between what an organization is doing today to accomplish its mission and what it needs to do to achieve its vision of the future organization.

goal — A statement of a result to be achieved in the long term, representing a major accomplishment.

I

implementation — To carry out a plan of action.

*industrial tourism — Term used to describe site visits made without sufficient research or a clear purpose.

innovation — The application of knowledge leading to the development of new processes, products, or services in response to anticipated customer requirements.

inputs — Materials or information used to produce a product or service.

internal customer — An individual or group inside the boundaries of the producing organization who receive or use output from a previous stage of a process in order to contribute to production of the final product or service.

*International Benchmarking Clearinghouse (IBC) — A part of the American Productivity and Quality Center (APQC) that specializes in networking services, information searches, and databases for benchmarking.

J

just-in-time (JIT) — The concept of supplying inputs only when they are needed for use.

L

leadership — The process of inducing others to take action toward a common goal.

linking pin — A member of an ESC or QMB who is assigned to work with the subordinate QMB or PAT in order to interpret the team's charter as well as provide guidance and support to the team's activities.

M

mission statement
: A written document that defines the fundamental and unique purpose that sets one organization apart from others and identifies the scope of operations. It describes what the organization does, whom it does it for, and how it does it.

N

*National Performance Review (NPR)
: Created by President Bill Clinton on 3 March 1993, who appointed Vice President Al Gore as its leader. It is an initiative to reform the way federal government works. Its goal is to create a government that "works better and costs less."

O

outcome — The way a customer responds to a product or service.

output — The product or service produced by a process.

P

*partners — Those individuals or organizations who choose to associate because they share a common vision and set of strategies.

performance measurements
: Indicators to help determine how well an organization is performing.

Plan-Do-Study-Act cycle
: Also known as Plan-Do-Check-Act cycle, Deming cycle, or Shewhart cycle, it is an application of the scientific method useful for gaining knowledge about and improving a process.

*primary research
: The direct source of the research, that is, Deming's own writings instead of what others have said about his teachings.

process — A set of causes and conditions that repeatedly come together to transform inputs into outputs.

*process mapping
: Diagramming, usually with flowcharts, the extended view of a process for the purpose of improvement.

Process Action Team (PAT)
: A team, composed of individuals who work together on a particular stage of a process, who are chartered by the ESC or a QMB to look at ways to improve the process.

Q

quality
: The extent to which a product or service meets or exceeds customer requirements and expectations.

quality advisor
: A TQL support position within a DON organization. This person assists QMBs and PATs in data collection, analysis, and interpretation. The advisor also trains these teams in the use of methods and tools for process improvement.

quality characteristic
: A property or attribute of a product or service that is considered important to a stakeholder.

quality improvement team
: Any team that has been established to improve quality, usually through the improvement of an organization's processes. In the DON, the Executive Steering Committees, Quality Management Boards, and Process Action Teams are the teams linked by charters to make process improvements.

Quality Management Board (QMB)
: A cross-functional team composed of managers, usually of the same organization level, who are jointly responsible for a product, system, or service.

quality philosophy
: An enduring, value-based set of interrelated statements created by an organization's guiding members that reflect the quality principles, concepts, and methods that address what the organization stands for and how it conducts its business.

R

range
: A statistic that depicts the extent of dispersion in a set of data. It is determined by calculating the difference between the largest and smallest values in the data set.

*"rice bowl" issues
: Issues, topics, or resources that someone wants urgently to protect. They may define the person and/or the organization in the eyes of others who are influential.

S

secondary research
: This is the research that tells you about what organizations and companies do, through the eyes, ears, and perceptions of others outside the organization. Many benchmarking databases have this type of information where informed observers relate what goes on in an organization or company.

stakeholders
: The groups and individuals inside or outside the organization who affect and are affected by the achievement of the organization's mission, goals, and strategies.

strategic goal
: A long-range change target that guides an organization's efforts in moving toward a desired future state.

strategic intent
: A driving force compelling leadership toward its vision.

strategic management
: A process that links strategic planning and strategic intent with day-to-day operational management into a single management process. It is used to describe Phase Two of TQL implementation.

strategic plan
: A document that describes an organization's mission, vision, guiding principles, strategic goals, strategies, and objectives.

strategic planning
: The process by which the guiding members of an organization develop a strategic plan.

strategy
: A means for achieving a long-range strategic goal.

suboptimization
: A condition that occurs when the performance of a system component has a net negative effect on the aim of the total system.

system
: A network of interdependent components that work together to accomplish a common aim.

*systems view
: Knowing how all the parts of an organization link together, such as the suppliers, the entire production process, the customers, and the employees.

T

team
: A group of individuals organized to accomplish an aim.

team leader
: A member of the team responsible for leading the team in the accomplishment of the aim.

total quality — An extension of the quality concept to include improvement of all of the quality characteristics that influence customer-perceived quality. This includes sources of variation from incoming supplies, all of the significant processes within an organization, and all those that can influence customer satisfaction, needs, or expectations when the product or service has left the organization. Also referred to as "TQ."

Total Quality Leadership (TQL) — The application of quantitative methods and the knowledge of people to assess and improve materials and services supplied to the organization; all significant processes within the organization; and meeting the needs of the end-user, now and in the future.

TQL coordinator — A person selected by the commanding officer to assist in the implementation of process management through TQL.

Bibliography

References marked with an asterisk (*) appear in *The Department of the Navy Benchmarking Handbook: A Systems View.* The others are recommended readings.

*Air Force Quality Institute. (September 1994). *Process improvement guide* (2nd ed.). Montgomery, AL: Author.

*Alcoa. (1990). *Benchmarking: An overview of Alcoa's benchmarking process.* Pittsburgh, PA: Author.

*American Productivity and Quality Center (1993). *The benchmarking management guide.* Cambridge: Productivity Press.

Balm, G. J. (1992). *Benchmarking: A practitioner's guide for becoming and staying best of the best.* Schaumburg, IL: QPMA Press.

*Bartlett, J. (1980). *Familiar quotations* (15th ed.). Boston: Little, Brown and Company.

*Benchmarking Exchange. 7960-B Soquel Drive, Suite 356, Aptos, CA. 95003. 1-800-662-9800.

Bolon, M., & Weber, A. (June 1995). *Benchmarking: A manager's guide.* Arlington, VA: Coopers & Lybrand.

*Biesada, A. (1992). Benchmarking. *Finance World.* September 17,1991. Pp. 28-47. (Reference No. 11843)

*Camp, R. C. (1989). *Benchmarking: The search for industry best practices that lead to superior performance.* Milwaukee: ASQC Quality Press.

*Camp, R. C. (1995). *Business process benchmarking: Finding and implementing best practices.* Milwaukee: ASQC Quality Press.

Clinton, W., & Gore, A. (January 1997). *Blair house papers.* Washington, DC: National Performance Review.

COMNAVSHORLANT (Commander, Naval Shore Atlantic). (July and November 1995, July 1996). *Benchmarks: Better ways to do business supporting the Atlantic Fleet.* Washington, DC: Author.

Conference Board. (1992). *Baldrige winners on world-class quality* (Rep. No. 990). New York: Author.

Conference Board. (1993). *Benchmarking the information technology function* (Rep. No. 1952). New York: Author.

Conference Board. (1994). *Benchmarking in the finance function* (Rep. No. 1085-94-CR). New York: Author.

Coopers & Lybrand. (1991). *Benchmarking: A tool for continuous improvement.* Arlington, VA: Author.

*Deming, W. E. (1993). *The new economics for industry, government, and education.* Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Studies.

Department of Defense. (1993). *Lessons learned from best practices in the private sector.* Washington, DC: Author.

Department of Energy. (January 1996). *Environmental management benchmarking guide.* Washington, DC: Office of Environmental Management, Department of Energy.

*Department of the Navy. (1995). *Best manufacturing practices: a decade of success 1985-1995.* Washington, DC: Author.

Department of the Navy. (July 1994). *Methods and metrics for product success.* Washington, DC: Office of the Assistant Secretary of the Navy for Research Development and Acquisition, Department of the Navy.

*Department of the Navy. (1996). *Department of the Navy TQL Glossary.* Washington, DC: Author.

Department of the Navy. (1997). Systems approach to process improvement (Course No. CIN P-500-0004). Washington, DC: Author.

*Department of the Navy. (1996). Team skills and concepts (Course No. CIN P-500-0005). Washington, DC: Author.

*Dobyns, L., & Crawford-Mason, C. (1991). *Quality or else: the revolution in world business.* Boston: Houghton Mifflin Company.

*Dutile, R. A. (1993). *The Benchmarking Course.* New York: American Management Association.

*General Accounting Office. (May 1995). *Best practices methodology: A new approach for improving government operations* (GAO/NSIAD-95-154). Washington, DC: Author.

GTE Government Systems. (1995). *Benchmarking guide for GTE telephone operations.* Irving, TX: Author.

Houston, Archester. (1997). *The survey handbook.* (in press). Washington, DC: TQL Office, Office of the Under Secretary of the Navy.

How to prepare for and conduct a benchmark project (prepared for Assistant Secretary of Defense (C3I). (July 1994). Washington, DC: CINCLANTFLT (Commander in Chief, U.S. Atlantic Fleet)/COMNAVSHORLANT (Commander, Naval Shore Atlantic [N46]).

*Hughes Aircraft Company (May 1996). *Benchmarking scoring of company responses.* Elsegundo, CA: Hughes Electronics, Sensors, Communications, and Systems Division.

*Juran, J. M. (1989). *Juran on leadership for quality: An executive handbook.* New York: Juran Institute, Inc.

*Kaiser Associates, Inc., (1995, May). *Benchmarking in the public sector.* Presented at the Benchmarking in Government conference, Washington, DC.

*Katzenbach and Smith. (1993). *The wisdom of teams.* New York, NY: Harvard Business School Press.

KPMG Peat Marwick. (1995). *Benchmarking handbook.* Washington, DC: Author.

National Performance Review. (February 1995). *Putting customers first: Serving the American public; best practices in telephone service* (Federal Consortium Benchmarking Study Report). Washington, DC: Author.

Patterson, J. G. (1996). *Benchmarking basics: Looking for a better way.* Menlo Park, CA: Crisp Publications.

*The Quality Network, Inc. Park Central, Suite F, 110 Linden Oaks Drive, Rochester, NY.

*Rummler, G.A. & Brache, A.P. (January, 1991). *Managing the white space.* Training Magazine, 28(1), 55-70.

Russell, J. P. (1991). *Quality management benchmark assessment.* Milwaukee: Quality Resources and ASQC Quality Press.

*Social Security Administration. (October 1994). *Benchmarking procedures for the Social Security Administration* (SSA Pub. No. 24-016). Washington, DC: Author.

*Spendolini, M. J. (1992). *The benchmarking book.* New York: American Management Association.

*Spendolini, M. J. (1991). *Benchmarking: A tool to improve competitiveness.* (Course 4231-032). New York: American Management Association.

*The SPI Council on Benchmarking (web site). Available: www.channel1.com/users/spi/spibmc.html.

*Texas Instruments (August 1991). *Benchmarking: The quest for the best.* Plano, Texas: Author.

*Thor, C. G. (1995). *Practical benchmarking for mutual improvement.* Portland: Productivity Press.

*Watson, G. H. (1992). *The benchmarking workbook: Adapting best practices for performance improvement.* Cambridge: Productivity Press.

*Watson, G. H. (1993). *Strategic benchmarking: How to rate your company's performance against the world's best.* New York: John Wiley.

* *Webster's Ninth New Collegiate Dictionary.* (1984). Springfield, MA: Merriam-Webster.

*Wells, D. L., & Doherty, L. M. (1994). *A handbook for strategic planning* (TQLO Pub. No. 94-02). Washington, DC: TQL Office, Office of the Under Secretary of the Navy.

*Wells, D. L. (1996). *Strategic management for senior leaders: A handbook for implementation* (TQLO Pub. No. 96-03). Washington, DC: TQL Office, Office of the Under Secretary of the Navy.

About the Author

Joan Kraft is the New Technology Transfer Advisor in the Under Secretary of the Navy's Total Quality Leadership Office (TQLO), Executive Support Division. Joan is responsible for identifying emerging technologies and quality improvement concepts and adapting or transferring them for possible uses throughout the Department of the Navy (DON). She provides consulting and facilitation services to top DON leaders. Some of her recent consultation and facilitation assignments include: the Secretary of the Navy's Correspondence Process Action Team, the DON Working Group in response to the Presidential Executive Order #12862 on "Setting Customer Service Standards," and strategic planning for the Marine Corps University, the Shore Installation Management Division (OPNAV N46), and the Navy-Marine Corps Relief Society. Joan also serves as the TQLO's specialist on benchmarking, balanced scorecard, activity-based costing, process mapping, Stephen Covey's methods, and groupware.

Joan has worked 17 years for the DON, serving 10 years as a budget analyst at the Navy's Inventory Control Point (NAVICP), formerly known as Ships Parts Control Center, in Mechanicsburg, PA. She has a diverse professional background, which consists not only of total quality and financial management, but also includes education, theater, and dance. Joan received her Master's Degree in Humanities and Bachelor's Degree in Humanities and Comprehensive Secondary Education from the Pennsylvania State University. Originally from Philadelphia, Joan currently resides in Alexandria, VA. Her son, Woody Derricks, is a senior at the University of Maryland.

TQLO Publication Number 97-03

The Department of the Navy Benchmarking Handbook: A Systems View

DEPARTMENT OF THE NAVY

TQL

OFFICE

Department of the Navy
Total Quality Leadership Office
Washington Navy Yard
901 M Street, SE
Building 36
Washington, DC 20374-5024