INTRODUCTION

1.1 BEST PRACTICES

(a) OVERVIEW. "Best practices" refers to processes, practices, and systems that are identified in top-performing public and private organizations and are widely recognized as improving the organizations' performance and efficiency in specific areas. Successfully identifying and applying best practices can reduce business expenses and can improve organizational efficiency.[1]

A best practices review or best management-practices review can be applied to a variety of processes, such as payroll, travel administration, employee training, procurement, accounting and budgeting, transportation and distribution, maintenance and repair services, and information technology (IT). The decision to use a best practices review should be made in a larger context that considers the strategic objectives of the organization and then looks at the processes and operating units that contribute to those objectives. Ask questions like:

- What drives the costs in a particular process?
- Is the process effective in achieving its goals?

An initial step is to determine all the variables that contribute to the expenditures associated with the area. Another early step is to start with the areas that the customers think are of major importance to the organization being reviewed.

Identifying the scope of the process to review is not always easy. It is not always clear where to start and where to stop when one decides to benchmark a process. It is important that the entire process be considered, rather than just part of the process. If an organization fails to capture the entire process, then it is simply pushing costs into other areas of the process or creating an improvement that is inhibited by trying to marry old ways and new ways when the two conflict with each other. However, one cannot look at everything. At least initially, select a process that is about ready to accept change.

(b) BEST PRACTICES METHODOLOGY. Best practices methodology is a relatively new approach to improving business or government operations. Many organizations, in both the public and private sectors, are beginning to recognize that in order to survive in the future, they have to initiate major changes that will make them more productive and reduce costs.

WHAT IS BENCHMARKING?

Benchmarking is more than just a comparison of performance measures and cost ratios. Rather, the total organizational impact must be considered.

The best practices approach to change, one of several approaches, involves identifying organizations that are widely recognized for major improvements in their performance and efficiency in a specific area, such as inventory management. The processes, practices, and systems identified in these organizations are referred to as *best practices* and provide a model for other organizations with similar missions and objectives. Frequently, benchmarking is used to gather information on these practices from a number of different organizations, which is then applied to improving operations. Benchmarking is also an effective approach for promoting organizational change. Best practices are intended to radically change and improve organizational processes.

In identifying best practices among organizations, the "benchmarking" technique is frequently used. When benchmarking, an organization (1) determines how leading organizations perform specific processes, (2) compares their methods to its own, and (3) uses the information to improve upon or completely change its processes. Benchmarking is typically an internal process, performed by personnel within an organization who already have a thorough knowledge of the process under review.

During a best practices review, one is forced to consider new approaches. Specifically, one compares how an organization performs functions with how another organization is doing them differently. The different approach may turn out to be a much better way of performing a function. Implementing this better way to perform a process throughout the organization is what allows an organization to make meaningful changes. In identifying best practices among organizations, the "benchmarking" technique is frequently used.

The best practices evaluation will look not only at quantitative data, such as costs, but also at how other processes and factors, such as organizational culture, might be affected by change. There are six elements that any best practices review should include, as described below:

1. **Understanding the Process to Be Improved.** The first step is to thoroughly understand the process before speaking with people in various organizations. This will help in recognizing opportunities for improvement. Understanding the process will ease analysis by defining a baseline for comparison and providing more focus to questions when making inquiries regarding the best practices identified in other organizations. Further, a good depth of understanding is essential to selecting appropriate companies for comparison. Discussing the process in detail with affected people and flowcharting the process will facilitate data gathering from the comparison organizations and the comparative analysis.

2. **Researching to Plan the Review.** Preliminary planning and research are key elements in preparing a best-practices review; both must be done before selecting the organizations for comparison. Performing a literature search, researching industry trends, and speaking with consultants, academics, and industry/trade group officials will provide valuable background information on the process under review. It will also provide the names of leading-edge companies and public sector organizations. Other sources for leading-edge companies and names of the people involved include telephone books, company annual reports, and commercial databases.

3. **Selecting Appropriate Organizations.** After you have reviewed the literature and conducted your discussions with consultants, academics, and industry/trade

group officials, you will have compiled a list of many organizations cited as "best" in their respective industries for the process you are reviewing. The next decision is determining how many organizations to visit. There is a tradeoff in selecting organizations. Since visiting too many companies can cause "analysis paralysis," the list should be kept at five. It should not be limited to just one company for the sake of time and convenience. Depending on the process under review, you may want to select companies that are geographically dispersed. One needs to determine the criteria that best meet one's needs. The criteria need not require finding the "best of the best" if the difference in the process is not significant among leading-edge organizations. In these cases, what is important is to find companies that are considered by experts to be among the best at the process under review. Such companies may be able to give you more than the very best, which may be followed with requests to study them. Selecting appropriate organizations to visit is the most important and most difficult element of a best practices review.

4. **Collecting Data from Selected Organizations.** After you have researched and begun planning your review, you should develop a list of questions to use as a guide for discussions with consultants, academics, and industry/trade group officials. These questions need to be refined after the first interview with a company to make them more appropriate and focused. A standard list of questions will ensure that you are obtaining comparable information regarding the organizations you visit. Your analysis will involve looking for common practices and characteristics among the organizations you have identified as having the best practices in the selected function under review.

5. **Identifying Barriers to Change.** A major challenge to ensuring that your final recommendations will be implemented and effective lies in identifying the barriers to change, whether real or perceived. Potential sources of barriers include regulatory requirements, organizational culture, and the possible impact of the change on the organization's products and services. Identifying barriers to change is the most difficult step in implementing a best-practices methodology.

   While government regulations do not always prevent the use of best practices, they may make change difficult. Organizational culture can be a major obstacle. Entrenched systems can make changes difficult to implement. Immediate and comprehensive change is unlikely in many organizations; it can take five to ten years or longer to change an organization's culture.

6. **Making Recommendations for Change.** The final step in the best practices review is to compare and contrast the organization's process with the processes of the organizations you benchmarked, and to decide whether the organization would benefit from implementing new processes. If the answer is "yes," then make recommendations, keeping flexibility in mind since it may not be possible to do things exactly as they are done in the other organizations. It is always good to develop a "basket of ideas" from which to choose; this approach not only provides flexibility but also increases the potential for acceptance of the change. Demonstrating possible savings and recommending key steps for change will help to promote the change. Photographs of the consequences of the process comparing "before" and "after" the change are convincing tools for illustrating

the effectiveness of a recommended change. Also, a pilot project gives the ability to work through any concerns or obstacles and allows the organization time to develop cost and benefit estimates for full implementation.

- To be effective, organizations should focus on all business processes, not just customer-related processes.
- There is a direct relationship between the quality of the employees an organization has and the quality of service provided to customers.
- Having the right quality and quantity of information is crucial in satisfying the needs of customers, owners, and stakeholders alike.
- Organizations should manage all of their resources, including physical, financial, human, and intangible (intellectual) assets.
- Organizations that are process-oriented, customer-focused, change-oriented, and future-directed will create long-lasting value for customers, owners, and stakeholders alike.

1.2 BENCHMARKING

(a) OVERVIEW. Benchmarking is the comparison of core process performance with other components of an organization (internal benchmarking) or with leading organizations (external benchmarking). Benchmarking is a key tool for performance improvement because it provides "real world" models and reference points for setting ambitious improvement goals. Benchmarking helps to (1) identify the gaps between the organization's process performance and that of leading organizations, and (2) understand how these leaders have changed their structures, work processes, and lines of business to improve performance dramatically. When used in conjunction with performance measurement, benchmarking provides a powerful means of establishing a compelling business case for change.

(b) TYPES OF BENCHMARKING. Two types of benchmarking exist: business process benchmarking and computer-system benchmarking. Business process benchmarking deals with business process improvement (BPI) and business process reengineering (BPR) to reduce costs and to improve quality and customer service. Computer-system benchmarking focuses on computer hardware/software acquisition, computer-system design, computer-capacity planning, and system performance. Each has its own place and time.

LINK BETWEEN BENCHMARKING AND BEST PRACTICES

Benchmarking results are used to develop or modify best practices, and hence there is a link between the two.

(i) Business Process Benchmarking. Business benchmarking is an external focus on internal activities, functions, or operations in order to achieve continuous improvement. The objective is to understand existing processes and activities and then to identify an external point of reference, or standard, by which that activity can be measured or judged.

A benchmark can be established at any level of the organization in any functional area, whether manufacturing or service industries. The ultimate goal is to be better than the best—to attain a competitive edge.

Value creation is the heart of organizational activity, be it a profit or nonprofit entity. Benchmarking provides the metrics by which to understand and judge the value provided by the organization and its resources. Benchmarking focuses on continuous improvements and value creation for stakeholders (i.e., owners, customers, employees, and suppliers), utilizing the best practices to focus improvement efforts.

Benchmarking targets the critical success factors for a specific organization. It considers the mission of an organization, its resources, products, markets, management skills, and others. It requires the identification of customer(s), whether internal or external to the organization. Benchmarking is an early warning system of impending problems and is not a one-time measurement. Benchmarking can focus on improving organization structures, analyzing managerial roles, improving production processes, or developing strategic issues.

What are the sources of information for benchmarking? Benchmarking can be done by using published materials, insights gained at trade association meetings, and conversations with industry experts, customers, suppliers, academics, and others.

An organization benchmarks for three reasons: (1) it wants to attain world-class competitive capability, (2) it wants to prosper in a global economy, or (3) it simply wishes to survive (desperation).

Benchmarking should be undertaken when "triggers" are present. These triggers can arise internally or externally in response to information needs from some other major project or issue or problem in the company. Examples of these "triggers" include (1) quality programs, (2) cost-reduction programs, (3) new management, (4) new ventures, and (5) competitive moves. Benchmarking should be done as needed, without any preconceived notions.

An organization can benchmark in six distinct ways.

1. **Internal Benchmarking** (self-examination) is the analysis of existing practices within various departments or divisions of the organization, looking for best performance as well as identifying baseline activities and drivers. Drivers are the causes of work: the triggers that set in motion series of actions, or activities, that will respond to the requests or demands of the stockholders.

    In doing internal benchmarking, management is looking downward, examining itself first before looking for outside information. Significant improvements are often made during the internal analysis stage of the benchmarking process. Value-added activities are identified and non-value-adding steps are removed from the process. Internal benchmarking is the first step because it provides the framework for comparing existing internal practices with external benchmark data. Internal benchmarking focuses on specific value chains or sequences of driver-activity combinations.

2. **Competitive Benchmarking** (limited to one industry) looks outward to identify how direct competitors are performing. Knowing the strengths and weaknesses of the competitors provides a good input for strategic and corrective actions.

3. **Industry Benchmarking** (looks at industry trends) extends beyond the one-to-one comparison of competitive benchmarking to look for trends. It is still limited in

the number of innovations and new ideas it can uncover because everyone is following the other. At best, it can help establish the performance baseline or can give an incremental gain. It gives a short-run solution and a quick fix to an existing problem. However, it does not support quantum leaps or breakthroughs in performance since the comparison is limited to one industry.

4. **Best-in-class Benchmarking** (looks at multiple industries) goes beyond a single industry to look for new, innovative practices, no matter what their source. This is the ultimate goal of the benchmarking process. It supports quantum leaps in performance and gives a long-run competitive advantage.

5. **Process Benchmarking** (looks at key work processes) centers on specific processes such as distribution, order entry, or employee training. This type of benchmarking identifies the most effective practices in companies that perform similar functions, no matter in what industry.

6. **Strategic Benchmarking** (focuses on market success) examines how companies compete and seeks the winning strategies that have led to competitive advantage and market success.

WHICH BUSINESS PROCESS BENCHMARKING IS WHAT?

- Internal benchmarking is looking downward and inward.
- Competitive benchmarking is looking outward.
- Industry benchmarking is looking for trends. It provides a short-run solution and a quick fix to a problem.
- Best-in-class benchmarking is looking for the best all around. It provides a quantum jump in improvement.
- Process benchmarking is specific to a process.
- Strategic benchmarking is broad, with big impact on the entire organization.

(ii) Computer-System Benchmarking. Although benchmarking is generally thought of as an important and necessary tool during the hardware or software acquisition process, it also has many other useful applications:

- The effects of software and hardware changes on system performance can be evaluated by running a representative benchmark before and after such changes.
- Benchmarking can be used in computer-capacity planning to determine the unused capacity and the saturation point of the present system. This is done by first constructing a benchmark to represent projected workload(s) and then by running the benchmark to stress test the current system (i.e., to determine at what load levels required service levels can no longer be attained). This application of benchmarking would thus enable an organization to plan better for future acquisitions.
- Benchmarking can also be used to evaluate the design of computer systems. The hardware/software vendors themselves largely use this application. Computer-system designers often use benchmarks to evaluate the capabilities and performance of their new computer systems.
- Benchmarking is most commonly used as an evaluation technique in the computer-system acquisition process. It is a common test by which different vendor systems can be evaluated. Benchmarking in this context can serve

several important functions. It can assist the vendors in determining the most cost-effective offering to satisfy the organization's requirements. It can facilitate the verification of the proposed system as to the time required to perform the workload and as to its functional capabilities. And, finally, it can sometimes be used prior to or during acceptance testing, after contract award, to verify that the delivered system is consistent with the system benchmarked during the evaluation phase.

LESSONS LEARNED FROM BENCHMARKING

- Benchmarking is more than just a comparison of performance measures and cost ratios. Rather, the total organizational impact must be considered.
- A "basket of ideas" gives the organization flexibility in adopting new processes, thus providing more potential for positive acceptance of change.
- Pilot projects give the organization the ability to work through any concerns or obstacles and allow them time to develop cost estimates for full implementation.
- Outsourcing can suggest areas that can benefit from a best practices and benchmarking review.

1.3 PERFORMANCE INDICATORS AND MEASURES

(a) OVERVIEW. In work settings, employees accomplish things and tasks that are measured by their supervisors because these accomplishments become a part of the employee's performance record, which is used during employee appraisal review. It is a fact of business life that an organization's performance is an aggregation of each employee's performance. Strategic, financial, regulatory, legal, and organizational reasons drive the measurement of an organization's performance.

SELECTION CRITERIA FOR PERFORMANCE INDICATORS

Selection of the type of performance indicators should be credible, meaningful, and significant to the business and should involve only a few numbers, for better management of the measurement process.

Leading organizations, both in the public and private sectors, are using various performance indicators to measure, track, and report organization performance levels for improvement as part of their best practices. These include scorecards (balanced scorecards, strategy scorecards, stakeholder scorecards, key performance indicator scorecards, functional scorecards, and dashboard scorecards), metrics, cycle times, and standards. These standards include national standards, regional standards, international standards, organization standards, industry standards, and professional standards. For example, some U.S. organizations compare their performance with that of the U.S. Malcolm Baldrige Criteria for Performance Excellence Results, which is an example of a national standard.

Performance indicators such as scorecards, metrics, cycle times, and standards are also a part of an organization's value chain. New performance indicators lead to new initiatives for management. The value chain should be enhanced by increasing value-added activities and by eliminating non-value-added activities to provide a

permanent value to internal and external customers as well as to the organization as a whole.

Selecting the right type of performance indicators (stretch goals) is as important as initiating the performance measurement program, if not more. Incorrect selection leads to unusable results. The selected indicators should be simple in thinking, should be easy to understand, implement, and measure, and should lend themselves to easy interpretation of the results. Performance indicators should be selected from various generic sources, such as the organization's strategic and business plans; functional and operational goals and objectives; internal and external benchmark reports; employee performance targets that are committed; quality, process, and operations improvement plans; teachings from "lessons learned" files; industry white papers; lists of critical success factors; internal/external audit reports; and publicly available databases on best practices and benchmarks.

(b) SCORECARDS.   Most businesses on investment, earnings per share) and manufacturing data (e.g., factory productivity, direct labor efficiency, and machine utilization). Unfortunately, many of these indicators are inaccurate and stress quantity over quality. They reward the wrong behavior, lack predictive power, do not capture key business changes until it is too late, reflect functions instead of cross-functional processes, and give inadequate consideration to difficult-to-quantify resources such as intellectual capital. Most measures are focused on cost, not so much on quality.[2]

(i) Balanced Scorecards.   Robert S. Kaplan and David P. Norton of Harvard Business School coined the term "balanced scorecard" in response to the limitations of traditional financial and accounting measures. A good balanced scorecard contains both leading and lagging indicators, and both financial and nonfinancial measures. For example, customer surveys (performance drivers) about recent transactions might be a leading indicator for customer retention (a lagging indicator), employee satisfaction might be a leading indicator for employee turnover (a lagging indicator), and so on. These measures and indicators should also establish cause-and-effect relationships across the four perspectives. The cause-and-effect linkages describe the path by which improvements in the capabilities of intangible assets (people) get translated into tangible customer satisfaction and financial outcomes.

(ii) Strategy Scorecards.   Kaplan and Norton recommend that key performance measures should be aligned with the strategies and action plans of the organization. They suggest translating the strategy into measures that uniquely communicate the vision of the organization. Setting targets for each measure provides the basis for strategy deployment, feedback, and review.

They divided the strategy-balanced scorecard into four perspectives or categories as follows:

1. **Financial Perspective.** It measures the ultimate results that the business provides to its shareholders, including profitability, revenue growth (net income), return on investment, economic value added, residual income, and shareholder value. Financial measures are lagging measures (lag indicators); they report on outcomes, the consequences of past actions. They tell what has happened. The financial perspective is looking back.

2. **Customer Perspective.** It focuses on customer needs and satisfaction as well as market share, including service levels, satisfaction ratings, loyalty, perception, and repeat business. The customer perspective is looking from the outside in.
3. **Internal Perspective.** It focuses attention on the performance of the key internal processes that drive the business, including such measures as quality levels, efficiency, productivity, cycle time, and production and operating statistics such as order fulfillment or cost per order. Internal process measures are leading measures (lead indicators); they predict what will happen. The internal process theme reflects the organization value chain. The internal process (operations) perspective is looking from the inside out.
4. **Learning and Growth Perspective.** It directs attention to the basis of a future success—the organization's people and infrastructure. Key measures might include intellectual assets, employee satisfaction and retention, market innovation (new product introductions), employee training and skills development, research and development (R&D) investment, R&D pipeline, and time-to-market. The learning and growth perspective is looking ahead.

The strategy scorecards provide graphical representation of strategy maps, and a logical and comprehensive way to describe strategy. They communicate clearly the organization's desired outcomes and describe how these outcomes can be achieved. Both business units and their employees will understand the strategy and identify how they can contribute by becoming aligned with the strategy.

(iii) Stakeholder Scorecards. The stakeholder scorecard identifies the major constituents of the organization—shareholders, customers, and employees—plus, often, others such as partners and the community. This scorecard defines goals for these stakeholders and develops an appropriate scorecard of measures and targets for them. Missing from such scorecards is any indication of how these balanced goals are to be achieved. A vision describes a desired outcome; a strategy, however, must describe how the outcome will be achieved and how stakeholders will be made satisfied. Thus, a stakeholder scorecard is not adequate to describe the strategy and is not an adequate foundation on which to build a management performance system.

Stakeholder scorecards, which miss the element of "how," are a first step on the road to a strategy scorecard. The stakeholder scorecard can also be useful as a corporate scorecard in which internal synergies across the strategic business units (SBUs) are limited. Because each SBU has a different set of internal drivers, the corporate scorecard need only focus on the desired outcomes for the corporation's constituencies. Each SBU then defines how it will achieve those goals and articulates these with its business strategy scorecards.

The stakeholder scorecard can keep the stakeholders satisfied but cannot realize performance breakthroughs. It omits critical internal processes and the linkages for driving breakthroughs for customers and shareholders. The local, low-level stakeholder scorecard must be aligned with the organization-wide, high-level strategy scorecard in terms of deployment, feedback, and review.

(iv) Key Performance Indicator Scorecards. Key performance indicator (KPI) scorecards are found mostly in manufacturing and health care industries, IT functions, and

management consulting organizations. KPI can link with the total quality management (TQM) philosophy. A company database is at the heart of the KPI program, which triggers the scorecard design.

KPI scorecards will be most helpful for departments and teams when a strategic program already exists at a higher level. The lower-level indicators (KPIs) will enable individuals and teams to define what they must do well to contribute to higher-level goals. Without this explicit link between the lower-level and the higher-level goals, the KPI scorecards will be ineffective. The KPI scorecards can drive improved operational performance but cannot realize performance breakthroughs. The scorecards omit critical internal processes and the linkages for driving breakthroughs for customers and shareholders. The local, low-level KPI scorecard must be aligned with the organization-wide, high-level strategy scorecard in terms of deployment, feedback, and review.

(v) Functional Scorecards.   Many functional organizations such as IT, human resources, finance, marketing, and R&D have developed functional scorecards. The functional scorecard can be viewed as a business-in-a-business model. To be useful, the functional scorecard must be linked to the SBU scorecard and the corporate scorecard. Some examples of the uses of an IT functional scorecard for the internal process category include (1) providing a flexible global infrastructure, (2) managing technical and operating risk, (3) creating and developing system solutions, (4) understanding, anticipating, and prioritizing customer needs, and (5) servicing the customer. Other IT performance measures include software performance, hardware performance, and project delivery.

IT can make data available to users, provide graphical interfaces, provide drill-down capabilities to reach detailed data and transactions, provide data mining and warehouse capabilities, and provide e-mail links. For example, the enterprise resource planning (ERP) system, customer relationship management (CRM) system, activity-based costing system, and shareholder value system (economic-value-added (EVA) system) can be combined through an organization's data warehouse to facilitate tracking, measuring, and reporting the scorecard indicators. By giving lower-level employees access to the scorecard system, the organization greatly amplifies its problem-identification, problem-solving, opportunity-creating, and knowledge-sharing capabilities. The scorecard system and its results should not be limited to higher-level employees only.

Organizational culture affects technology. Cultural assumptions are frequently overlooked and are often embedded in the technology itself, which can either create or inhibit the climate for change. The following seemingly simple questions, while technically elegant, have complex cultural implications:

- Who can access and use the system?
- How should organizational performance be communicated?
- Is this report an addition to the existing reporting system?

(vi) Dashboard Scorecards.   Many organizations have adopted the term "dashboard" scorecard as an alternative to a balanced scorecard. This reference stems from the analogy to an automobile's dashboard—a collection of indicators (e.g., speed, revolutions per minute, oil pressure, and temperature) that summarizes the car's performance. Dashboard scorecards use colors to indicate quality and status, and in so doing they provide a concise, visual summary of overall organizational performance.

(vii) Scorecard Implementation Issues. Kaplan and Norton identified three reasons for disappointment in implementing the scorecard system. They include transitional issues, design issues, and process issues. The transitional issues arise when a company is acquired by or merged with other company. The scorecard project could either be abandoned completely or stopped due to lack of interest on the part of the new company. The design issues come from building a poor scorecard system. A company might have selected too few or too many unimportant measures per perspective. What is needed is few critical measures. The most common causes of scorecard implementation failures are poor organizational processes, not poor scorecard design. Kaplan and Norton identified seven types of process failures:

1. Lack of senior management commitment
2. Too few individuals involved
3. Keeping the scorecard at the top of the organization
4. Prolonging the development process and managing it as a onetime project
5. Treating the balanced-scorecard project as a computer-system project
6. Hiring inexperienced consultants and contractors
7. Introducing the balanced-scorecard project only for compensation purposes

(c) METRICS. Metrics are tools designed to facilitate decision making and improve performance and accountability through collection, analysis, and reporting of relevant performance-related data. Metrics focus on the "amount" dimension, expressed as raw amounts (quantities) or percentages. In general, metrics can be used to:

- Evaluate and understand an organization's current performance levels
- Identify the critical processes that require focused, management attention
- Obtain the knowledge needed to set realistic goals for improvement
- Document results over time

Companies typically measure total savings, cost avoidance, or some other financial measures, which are reported to senior managers and executives. For example, metrics can be useful to increase the likelihood that reengineering efforts will be successful.

During the development of metrics, the following matters must be considered:

- Metrics must yield quantifiable information expressed as percentages, averages, or absolute numbers.
- Data-supporting metrics needs to be readily obtainable.
- Only repeatable processes should be considered for measurement.
- Metrics must be useful for tracking performance and directing resources.

The metrics development process ensures that the metrics are developed with the purpose of identifying causes of poor performance and therefore point to appropriate corrective actions. Organizations can develop and collect metrics of three types:

- Implementation metrics to measure implementation of organization's policies
- Effectiveness or efficiency metrics to measure results of organization's procedures and practices
- Impact metrics to measure business or mission impact of organization's events

(d) CYCLE TIMES. Business processes go through cycles from initiation to completion of defined tasks and activities. Each process has a beginning point and an ending point, and consumes resources (e.g., time, money, people talent, materials, machinery, and energy) to accomplish the defined tasks and activities. The goal is to consume as little of these resources as possible and to complete these tasks and activities as efficiently and effectively as possible. Industrial engineers, known as efficiency experts, can help in establishing and measuring the cycle times. Cycle time measures focus on the "time" dimension, expressed as hours or days.

USES OF CYCLE TIMES IN MARKETING

Cycle times can be used in marketing to develop new products (time to market), improve existing products, and deliver new products to the markets.

Out of all the resources mentioned, time is a limited and critical resource because lost time cannot be regained. Organizations who can beat the time clock are clear winners in the highly competitive global business environment. The goal is to become the best in the best-in-class group using shorter cycle times. The shorter the cycle time, the better—more work can be accomplished in less time. Cycle times measure the elapsed time between two or more successive events, the time taken to reach from Point A to Point B and back, or the time taken to complete a task from beginning to end.

If the cycle times are found to be unacceptable (i.e., too long), management should do the following to make them acceptable (i.e., shorter):

- Streamline the upstream and downstream work processes through work-study analysis, process-flow analysis, flowcharting analysis, and process-mapping analysis.
- Simplify the work processes by eliminating or decreasing non-value-added activities, deleting duplicate tasks, and removing unnecessary handoffs.
- Standardize the work processes by issuing new policies, procedures, equipment, systems, and tools and techniques for organization-wide use.
- Institutionalize the standardized work processes across the entire organization as pilot projects or in phases (i.e., a phased rollout).

The sequence of steps needed to reduce the cycle time in the value chain is:

Streamline $\longrightarrow$ Simplify $\longrightarrow$ Standardize $\longrightarrow$ Institutionalize

(e) STANDARDS. As said earlier, standards include national, regional, international, organizational, industry, and professional standards. For example, a national standard such as the U.S. Malcolm Baldrige criteria for performance excellence results are grouped into five sets of performance measures as follows:

1. **Customer-Focused Performance.** This set includes measures such as customer satisfaction and dissatisfaction, gains and losses of customers and their accounts, and customer complaints and warranty claims. Other measures include perceived

value, loyalty, positive referral, and customer relationship building. Service quality and cycle times are key satisfaction measures for distributors, while product quality is the principal satisfaction indicator for end users.

2. **Financial and Market Performance.** This set includes financial measures such as return on equity, return on investment, operating profit, pretax profit margin, asset utilization, and earnings per share. Market measures include market share size and percentage of new product sales.
3. **Human Resource Performance.** This set includes measures such as employee turnover, absenteeism, satisfaction, training effectiveness, grievances, safety, and suggestion rates.
4. **Supplier and Partner Performance.** This set includes measures such as quality, delivery, price, and cost savings.
5. **Organizational Effectiveness.** This set includes measures such as lead times, machine setup times, time to market, product/process yields, production flexibility, mean time between corrective maintenance, productivity, community services, defects and error rates, regulatory and legal compliance, new-product introductions, safety, and environmental (e.g., pollution).

(f) PRESENTATION TOOLS. All the effort expended on selecting the right type of performance indicators and measuring them will be of no use if their results are not presented to management in a meaningful way that permits making the right decisions. Functional managers and project managers present progress on performance indicators (e.g., scorecards, cycle times, and metrics) to senior managers and executives periodically through reports and memorandums. Leading organizations present these progress results using visual aids so that senior managers and executives can comprehend the data and information clearly and identify the trends quickly.

Presentation tools or visual aids can be classified as soft tools and hard tools. Soft tools include problem-solving tools (Chapter 7, 7.9) and decision-making tools (Chapter 7, 7.9), and listening, negotiating, and communicating tools. Hard tools include quality-control tools (Chapter 7, 7.9), quality-management tools (Chapter 7, 7.9), business-process management tools (Chapter 8, 8.5), and charting tools. The latter are discussed here.

The charting tools include tabular, column, Gantt, pie, line, and layer charts. The tabular chart is used to represent items of interest and requires a fair amount of study in order to grasp the full meaning of the figures. The column chart is most commonly used for demonstrating a comparison between two or more things. The Gantt chart is a bar chart used for milestone scheduling, with each milestone bearing start and completion dates. The pie chart is used to represent a 100 percent total of two or more items. The line chart is exceptionally impressive when comparing several things but could present a visual problem if the comparisons are too many or too close in relation to one another. The layer chart is linear in appearance but has a different representation. It depicts the accumulation of individual facts stacked one over the other to create the overall total. This chart is more complex than the others because it illustrates many more facts.

(g) BUSINESS VELOCITY AND CYCLE TIME. Velocity refers to speed and rate of turnover of something tangible, such as inventory and money currency. As said earlier, cycle time is the time taken to complete a task from the beginning to the end.
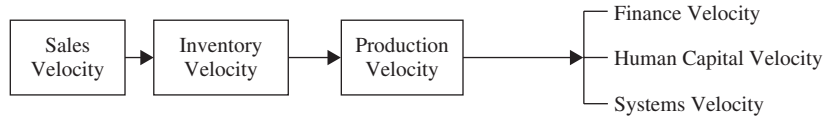
EXHIBIT 1.1   BUSINESS VELOCITIES FOR MANUFACTURING INDUSTRIES

"Time" is the common element between velocity and cycle time and connects them,. Let us look at the velocity concept in two business settings: manufacturing industries and service industries. Exhibit 1.1 and Exhibit 1.2 present business velocities.

For manufacturing industries, as sales are increasing (sales velocity), inventory is depleted quickly (inventory velocity), which should be filled with increased production (production velocity). Money needs to be invested to support the increased production in terms of buying raw materials, parts, and components, and paying for the workforce (finance velocity). More employees may need to be hired to meet the increased production levels (human capital velocity). All these velocities in aggregate may require developing new systems or modifying the existing systems, whether manual or automated (systems velocity). The goal is to synchronize these velocities in a cohesive manner. The same logic applies to pure service industries except that they have no inventories to sell.

When sales velocity is increasing (i.e., more sales), production velocity should also be increasing (i.e., more production), with the two in synchronization with each other. However, longer cycle times for specific internal tasks and operations within the production department can delay producing the required quantities of goods, thus preventing meeting the sales velocity demand. This requires optimizing the cycle times for all of the internal tasks and operations within the production department prior to handling the production velocity. Cycle times should not become a bottleneck to achieving the production velocity or any type of velocity.

In summary, velocities and cycle times are solidly linked in that shorter cycle times increase any type of business velocity, which can then increase revenues, decrease costs, and increase profits. For example, sales velocity, in part, cannot be increased if time-to-market cycle time for introducing new products is taking longer.

Cycle time measures are discussed in marketing and sales, manufacturing and service, finance, human resources, and information technology chapters, with attention to sales velocity, inventory and production or service velocity, finance velocity, human capital velocity, and systems velocity, respectively.

1.4   BEST-PRACTICES MANAGEMENT CAPABILITY MATURITY MODEL

The best-practices management capability maturity model consists of five stages or levels needed to improve the efficiency and effectiveness of business processes through proper implementation of best practices. These five stages are (1) select, (2) implement, (3) measure, (4) evaluate, and (5) institutionalize. When an organization reaches the institutionalization stage, it is a positive reflection of management's capabilities in properly implementing best practices. This model provides a simple and practical framework that can be standardized for organization-wide implementation of best practices.
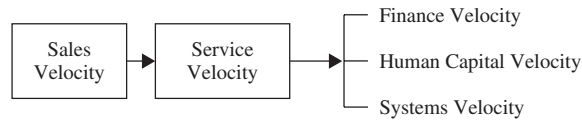
EXHIBIT 1.2 BUSINESS VELOCITIES FOR SERVICE INDUSTRIES

(a) STAGE 1. SELECT. This stage first identifies a business unit, division, or group needing improvement in performance. It can also identify a specific business function (e.g., accounts payable) or a process within the business function (e.g., vendor invoice processing) that needs improvement. Other examples of topics for selection include (1) freight audit and payment, (2) travel and entertainment expense management, (3) payroll processing by an outsourcing vendor, (4) customer-claims processing by an insurance company, and (5) patient bill estimation and processing by a hospital.

Appoint a project manager to manage the best practices project from start to finish. The project manager should prepare an inventory of all business processes that need improvement and should prioritize them with the approval of senior management. The project manager should issue detailed status reports periodically to all affected managers and summarized status reports to senior managers describing the progress, problems, and issues.

As part of a pilot project, the championing or sponsoring functional manager should select a process or function within his responsibility that is easy to address and that is in need of the most improvement. The idea is to demonstrate positive results to senior management and to convince skeptics among the other functional managers. Lessons learned from the pilot project can then be applied to the other parts of the organization.

The project team, consisting of the project manager and the functional manager and his staff, should then search for organizations that were successful in implementing the best practices in the chosen function or process. Benchmark results can be used to develop or modify best practices. Conduct the benchmark research to identify best-in-class public and private organizations (within an industry or across industries) that benefited from best practices. Obtain the benchmark study results, reports, and related information from reputable sources. Due to copyright restrictions, obtaining written permissions from the benchmark organizations to use their best practices methods is a good legal practice. Prior to implementation, it is important to obtain senior management support and commitment by presenting a developed business case to them.

SOURCES FOR BEST PRACTICES AND BENCHMARKING INFORMATION

Internet search engines (for example, www.google.com) can provide a vast amount of information when searched using ''Best Practices'' and ''Benchmarking.'' They provide the names of organizations and institutions sharing information in the form of white papers, case studies, methods, tools, and articles, along with their Web site information.

The project team can also contact industry trade associations, professional organizations, and governmental agencies for additional information. For example, the American Marketing Association

(AMA), a professional organization representing marketers, provides ''Best Practices in Marketing'' in its Web site (www.marketingpower.com). The project team should contact several sources until it finds the right organization that can help its project.

(b) STAGE 2. IMPLEMENT. This stage incorporates into an organization's day-to-day work habits and routines the general best practices available outside the organization. The task is not easy. In fact, many organizations fail in their implementation efforts due to people problems (i.e., people risk). Finalize what benchmark results and best practices are appropriate to the business function or process within a business unit, division, or group. The project team tailors these general best practices into company-specific best practices in terms of developing policies, procedures, tools, and internal systems. Identify resources (e.g., time and people) needed to achieve proper implementation of best practices.

A full implementation of best practices will not be efficient and effective until a business process is streamlined, simplified, standardized, and institutionalized. Otherwise, it is like throwing good money at bad things. To make things better, inefficient and ineffective business processes must be completely fixed prior to implementation of best practices.

The business case should include goals and objectives to be achieved from the implementation of best practices along with expected performance measures (e.g., scorecards, metrics, cycle times, and standards).

(c) STAGE 3. MEASURE. This stage compares actual performance levels resulting from the implementation efforts against the defined performance indicators and measures. The performance measures identified in the business case from the second stage are compared with the generally accepted indicators and measures, such as scorecards, metrics, cycle times, and standards.

This measurement exercise identifies gaps in performance between the actual levels and the expected levels. Management can then develop appropriate remedial plans and take action steps to close the gaps.

(d) STAGE 4. EVALUATE. This stage requires a careful evaluation of progress from stages one through three and takes a snapshot of the progress to date. This stage requires honest feedback from all employees involved in the best-practices project implementation in terms of its strengths and weaknesses. It asks specific questions, such as (1) whether the defined goals and objectives were achieved, (2) whether the defined benefits and gains were achieved, (3) what were the factors that led to success, (4) what went wrong, (5) what lessons were learned, and (6) what worked and what did not, and why. The evaluation should focus on the overall management system for improvement and not on people to blame. It also looks at whether the benefits and gains can be sustainable and repeatable in other business units, divisions, or groups.

If the evaluation turns out to be negative, with many problems surfacing that were not discovered in the previous stages, management should rethink and reassess the situation and replan and proceed further with caution. Or management could direct the project team to start from the first stage by revisiting other best-in-class organizations and obtaining different benchmark study results and reports from other sources.
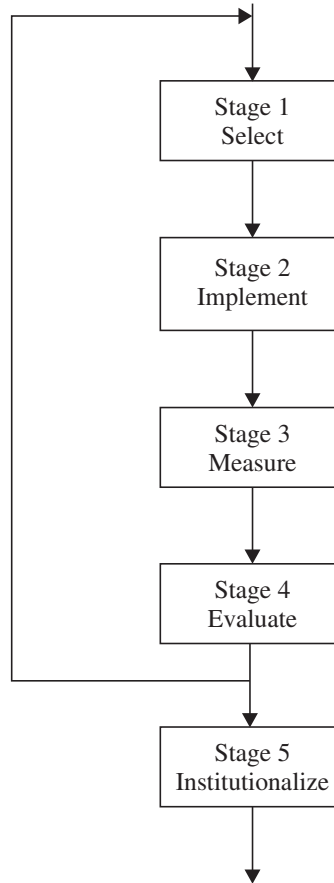
EXHIBIT 1.3   FIVE STAGES OF THE BEST-PRACTICES MANAGEMENT CAPABILITY MATURITY MODEL

(e) STAGE 5. INSTITUTIONALIZE.   This stage takes a "big picture" approach to the best practices for continuous improvement throughout the organization. If the evaluation from the previous stage turns out to be positive in a specific business area and the benefits and gains are sustainable and repeatable in other business units, divisions, or groups, management should streamline, simplify, and standardize the business processes related to the selected business area. Management can then institutionalize the standardized best practices by rolling out to the other parts of the business units, divisions, and groups of businesses. Organizations can realize full potential benefits from best practices only after they successfully complete this stage.

Exhibit 1.3 presents a pictorial view of the five stages of the Best-Practices Management Capability Maturity Model along with their connections.

Stages three and four can proceed in parallel while the other stages can follow the prescribed sequence. Notice that stage four loops back to stage one.

Additional Resources

Eckerson, Wayne W. *Performance Dashboards*. Hoboken, NJ: John Wiley & Sons, 2005.

Niven, Paul R. *Balanced Scorecard Step-by-Step*, second edition. Hoboken, NJ: John Wiley & Sons, 2006.

Paladino, Bob. *Five Key Principles of Corporate Performance Management*. Hoboken, NJ: John Wiley & Sons, 2007.

Parmenter, David. *Key Performance Indicators (KPIs): Developing, Implementing, and Using KPIs*. Hoboken, NJ: John Wiley & Sons, 2007.

Smith, Ralph S. *Business Process Management and the Balanced Scorecard*. Hoboken, NJ: John Wiley & Sons, 2006.

Notes

1. Best Practices Methodology: A New Approach for Improving Government Operations (GAO/NSIAD-95-154), U.S. General Accounting Office (GAO), Washington, DC, May 1995.

2. Portions of this section have been reprinted by permission of Harvard Business School Press. Robert S. Kaplan and David P. Norton, *The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment* (Boston, MA: Harvard Business School Press, 2001), 23, 102, 103, 204, and 361. Copyright © 2000 by the Harvard Business School Press Corp. All rights reserved.