

# **Who Needs Human Performance Technology?**

An Overview of How HPT Can Help Create Award-Winning Performance

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The goal of any organization is to demonstrate its performance...the results or outcomes of its efforts. Several difficulties lie in the path of organizations attempting to demonstrate performance. First, what exactly is performance? A dictionary definition might be “doing something successfully” ...but what is it that organizations want to do successfully? Performance measures, or those items that indicate performance, can be defined from a variety of perspectives. Some organizations focus on financial performance, the traditional “bottom-line” of business. Others also look at the degree of quality of their products and services as a measure of success. Still others consider productivity and human resource indicators when defining performance. With so many ideas about performance and so many different measures, how can organizations ensure that they are implementing the best practices and methods to improve all aspects of organizational performance?

It seems that there are as many approaches to performance improvement as there are measures. Many different disciplines – from organizational development to human resource management to quality management – define and approach performance improvement from a very specific perspectives and areas of expertise. As these disciplines gain prominence in the business world, their specialties are given the spotlight. Trends and tools emerge to help organizations improve performance from that discipline’s perspective. For example, Six Sigma, a refined and highly popular offshoot of the Total Quality Management (TQM) movement, applies statistical methods to collect and analyze quantitative data related to the maximizing the quality of products or services produced by a company. This data-driven process improvement methodology seeks to identify, quantify, and analyze gaps in performance, implement solutions, then demonstrate the statistical validity of the improvement effort. Most commonly the ultimate measure of organizational performance is an improved financial bottom line (Anthony, n.d.).

But is the financial success of an organization the only valuable measure of performance? The traditional view of business assumes that the purpose of any organization is to provide value to its stockholders. But as the economic climate changes over time, businesses are forced to re-examine the traditional paradigm and methods used to ensure organizational performance. Evidence of the value of this shift can be seen in the emergence of various “top performance” programs, such as the Malcolm Baldrige National Quality Program and *Fortune* magazine’s annual “100 Best Places to Work for” list, that recognize organizations that have begun to approach performance improvement from a new direction.

Two perspectives on performance that are currently in the spotlight include the quality of the workplace for employees and the impact organizations have on society beyond the walls of the workplace. Both of these measures focus on people. As organizations attempt to redefine and improve organizational performance in these terms, Human Performance Technology (HPT) stands out as an evolving discipline that offers a comprehensive approach to improving organizational performance within this new paradigm.

A review of the criteria used by various performance recognition programs will demonstrate that the performance that they value and reward is directly aligned with the practice of HPT. However, it is unknown if award-winning organizations are aware of the benefits of or apply HPT methodology as means to improve performance. Illustrating the parallels between HPT in light of a new paradigm of performance is intended to help organizations interested in a more extensive definition of performance recognize HPT as a comprehensive approach to performance improvement.

## ***What is HPT?***

Human Performance Technology is a continuously growing field that has its roots in systems theory, applied psychology, and communications (Gayeski, 1999). The theoretical basis provided by these roots has provided HPT practitioners with a framework in which to learn more about how people learn and communicate with each other and how that impacts workplace performance. As the fields of industrial and organizational psychology and instructional systems design converged mid-way through the 20<sup>th</sup> century, the results of workplace learning began to be associated with improved organizational performance. Over the past half-century practitioners have continued to study human behavior systems in the workplace through the lenses of a variety of disciplines including organizational systems theory, organizational design and development, human factors engineering, information technology, cognitive and behavioral engineering, and instructional systems design (Stolovich & Keeps, 1999). The result is an ever-growing set of integrated methods and tools that allow HPT practitioners to consider the many complex and interrelated factors of performance, systemically and systematically identifying gaps between current and desired organizational performance then implementing interventions tailored specifically to close those gaps.

A major premise of HPT is that “people perform within a system” (Fuller and Farrington, 1999). In fact, one of the standards of performance technology set forth by the International Society for Performance Improvement (2002) is that HPT must always take a systems view of performance rather than a process approach which assumes a much simpler relationship between the factors of performance. Performance systems involve a continuous cycle of organizational factors - the goals, values, and expectations of an organization - that affect the people working within the organization. As people do their work, their performance can be measured. This individual human performance impacts performance at different levels throughout an organization, ultimately impacting the overall performance of the organization. HPT recognizes that human performance is also influenced by certain consequences and feedback with the complex context of the work environment. Applying this systemic definition of performance, the primary goal of HPT is to systematically align those complex factors that influence human performance with the organization’s definitions of success so that the desired level of organizational performance is achieved.

Arising from the premise that human performance involves a complex set of interrelated factors, HPT recognizes the need to approach these diverse factors with a

rich and varied set of models and tools. While HPT practitioners often work within some organizational training or HR function, HPT at its best does not favor any single methodology or theoretical basis for performance improvement. Instead, HPT practitioners must be committed to examining the complexities of organizational performance, then, without bias toward a particular solution, apply the most appropriate methods to achieve desired performance. The HPT practitioner's "toolkit" should include a variety of models with which to analyze performance and identify causes of performance gaps. And, while no single HPT practitioner can be an expert in all of the potential solutions, they should be familiar with a wide variety of performance interventions such as process improvement, task and job redesign, knowledge management, electronic performance support systems, performance review and management systems, as well as motivational and instructional systems. HPT practitioners will often call upon other professionals who may have more in-depth expertise in a certain discipline or with a particular intervention if needed in order to solve a complex organizational issue.

So how does HPT relate to the shifting business paradigm? Use of HPT to consider the wide variety of factors that help people perform more effectively, can add improved workplace quality for employees to the more traditional quality measures of organizational productivity and "bottom-line" performance. Also, at least one approach to HPT suggests that organizational performance should be defined first in terms of its impact on society, followed by the desired financial and employee-centered measures of performance.

Subsequent sections of this article provide examples of HPT models and how they can be used to improve organization performance related to financial, workplace quality, and corporate social responsibility.

### **HPT and "Bottom-Line" Measures of Performance**

As HPT has evolved over time, a variety of performance models have been developed to help practitioners approach traditional "bottom line" and quality measures of performance. One such model is Langdon's Language of Work™ Model.

Danny Langdon developed the Language of Work™ Model from his combined experience in instructional systems design (ISD) and Total Quality Management (TQM). ISD focuses on the human aspects of learning as a means to improve performance and TQM focuses on process improvement and more traditional measures of quality. Both approaches are systematic, share similar processes of analysis and intervention, and seek the common goal of organizational performance improvement, but each uses a different lexicon to discuss and solve problems. As Langdon worked from both perspectives, he discovered that:

*Without a common language, individuals jumped to solutions, believed they were talking about the same things at the same time and debated endlessly without satisfactory solution, or at a minimum with great inefficiency. Improvements were based on the loudest voice — not the best analysis. (Performance International, n.d., ¶ 2 )*

The resulting model is Langdon's attempt to bring the common goal of both perspectives into focus and provide a framework for analyzing the gap between actual and desired performance at all levels of an organization. The insight of ISD broadens the perspective of TQM to include the human aspects of performance, while the process improvement measures of TQM provide a more solid basis upon which to measure the results of human behavior in terms of performance.

### Where Does Performance Occur?

Performance occurs within and across organizations. The performance technologist must consider the various levels at which performance occurs and how work at each level impacts performance at every other level. Table 1 provides the sequence of systematic analysis and improvement of performance at all levels suggested by the Language of Work™ Model:

**Table 1: The Levels of Performance**

Level	Definition	Items for Analysis
<b>1. Business Unit</b>	The broadest level of the organization that defines the purpose of work at all other levels	<ul style="list-style-type: none"> <li>• What is the vision or mission of the organization?</li> <li>• Is there a clear strategic plan?</li> <li>• What are the products and services offered by the organization?</li> <li>• Who are the customers of the organization?</li> <li>• Who or what is the competition?</li> </ul>
<b>2. Processes</b>	The core activities that define work	<ul style="list-style-type: none"> <li>• How is the work accomplished?</li> <li>• What steps result in the products of work?</li> <li>• What effects do these products have on the customers, the workers, or the organization?</li> </ul>
<b>3. Individual</b>	The performers who do the work	<ul style="list-style-type: none"> <li>• Who does what within the organization?</li> <li>• What are the job roles of individuals involved in the work process?</li> <li>• How does the work of any individual impact the work of any other individual?</li> </ul>
<b>4. Work Group</b>	The administrative organization of work	<ul style="list-style-type: none"> <li>• How is the work organized?</li> <li>• What are the work management practices?</li> <li>• Who has decision-making authority?</li> <li>• What outputs do these groups produce?</li> <li>• What support do these groups provide?</li> </ul>

(Langdon, 1999, pp. 267-270)

## What is Performance?

By defining performance as the more commonly understood term "work" within this model, the complexities of performance are presented within a more familiar context, improving communication and collaboration between HPT professionals and members of client organizations (Langdon, 1999). According to Langdon (1999), people often understand that they use certain "inputs" or resources to do their work and that their work creates certain products or "outcomes", but there is more to understanding work than these elements alone. The Language of Work™ model presents six interrelated elements of work (Table 2):

**Table 2: The Elements of Work**

<b>Element</b>	<b>Definition</b>	<b>Items for Analysis</b>
<b>Inputs</b>	What is needed to get work done	<ul style="list-style-type: none"> <li>• Equipment</li> <li>• Workers</li> <li>• Information</li> <li>• Facilities</li> </ul>
<b>Conditions</b>	Those factors that directly or indirectly influence the other elements of work	<ul style="list-style-type: none"> <li>• Policies</li> <li>• Management practices</li> <li>• Work environment</li> </ul>
<b>Process</b>	The "steps" of work or how the work is done	<ul style="list-style-type: none"> <li>• How to provide a service (e.g., technical support)</li> <li>• How to make a sale</li> <li>• How to build a product (e.g., a "widget")</li> </ul>
<b>Outputs</b>	The end products of work	<ul style="list-style-type: none"> <li>• Technical support is provided</li> <li>• A sale is made</li> <li>• A "widget" is produced</li> </ul>
<b>Consequences</b>	The impact or effect of a work output	<ul style="list-style-type: none"> <li>• Customers needs are met</li> <li>• Customers are satisfied</li> <li>• Revenues increase</li> </ul>
<b>Feedback</b>	A judgment of the adequacy of the other elements of work	<ul style="list-style-type: none"> <li>• Customer reactions</li> <li>• Worker response</li> <li>• Reinforcements to workers' performance</li> </ul>

(Langdon, 1999, p.266)

In order to accurately identify a performance gap, the elements of current and desired performance must be described at each level of performance within the organization.

## What Defines Performance?

Once the current and desired elements of performance have been described at the sequentially appropriate level and the performance gap identified, the cause of a performance problem can be analyzed by examining the context of work. Langdon describes four interrelated parts to performance that make up the context of work which are outlined in Table 3.

**Table 3: Parts of Performance**

<b>Part of Performance</b>	<b>Definition</b>	<b>Items for Analysis</b>
<b>Behavior: What will be done?</b>	"a series of internal and external events that cause a desired conclusion to be reached" (Langdon, 1999, p. 271)	<ul style="list-style-type: none"> <li>• What events (present or absent) are influencing current performance?</li> <li>• How does behavior at one level influence work at another?</li> </ul>
<b>Standards: How well?</b>	"define the costs, quantity or quality of work to be performed" (p. 271)	<ul style="list-style-type: none"> <li>• Is work occurring, but not as well as is desired?</li> <li>• Are adequate supports available?</li> </ul>
<b>Enablers/Supports: With what help?</b>	"what it takes...to make a 'healthy organization'...one that supports the work behavior it wants to see occurring at all four levels of performance" (p. 272)	<ul style="list-style-type: none"> <li>• Are appropriate resources available within and between the levels of work?</li> <li>• How does behavior at one level influence work at another?</li> </ul>
<b>"Noise": With what barriers?</b>	negative "attitudes, opinions, and habits (that) affect the work of others" (p. 272)	<ul style="list-style-type: none"> <li>• What behaviors are interfering with achieving desired performance?</li> <li>• How do barriers at one level impact work at another?</li> </ul>

(Langdon, 1999, pp. 271-272)

Consideration these factors at each level and within each element of performance help guide HPT professionals to through a complete, concise description of current and desired performance. It may be helpful to analyze those elements that represent behaviors first, as they are the "main part of work" (Langdon, 1999, p. 271), followed by a definition of the desired standards of performance. Identification of those elements that support or get in the way of desired performance complete the analysis process.

Following a performance analysis using the Language of Work™ Model, selection of interventions specifically targeted to the performance gap that has been identified should be as easy as 1-2-3:

1. Identify the performance gap by comparing current to desired performance.
2. Classify purpose of changes to performance as to establish, improve, maintain, or extinguish some element or part of performance
3. Select the most appropriate intervention

Effective interventions should attempt to maximize desired behaviors that meet accepted standards and provide adequate support while eliminating the "noise" that impacts all parts of performance at all levels.

The Language of Work™ model provides but one illustration of how HPT can serve to improve organizational performance. We know that most organizations concerned with performance improvement consider the business unit and process levels of performance to improve financial success. This traditional methodology overlooks the role of the individuals who influence those processes and the organization of processes within work groups. As this model illustrates, work performance is not as simple as

process performance yielding business results. The elements of work (inputs, conditions, processes, outputs, consequences, and feedback) at each level of performance can influence the elements of performance at every other level of the organization. As organizations begin to recognize the role of individuals as the core of the work environment, models for improvement that include the human factors of individual and group performance become essential to organizational success. Recognition of the importance of human performance as a measure of organizational success may be best demonstrated by recent efforts to create award-winning workplaces that focus on and support employee performance.

### **HPT and the Creation of a Great Place to Work®**

*Fortune* magazine's annual "100 Best Companies to Work for" list is based on the selection criteria developed by the Great Place to Work® Institute, Inc. Central to the Institute's mission and values is that high quality workplaces enhance the work life of employees and improve organizational financial performance. The key to an organization being recognized as a Great Place to Work® is a high degree of trust between managers and employees that is measured by the quality of three interconnected relationships: employee-management relationships, employee relationships with their job and the company, and employee relationships with other employees. From this perspective, the "bottom line" is enhanced and organizational success is supported by a very employee-centric view of performance.

Trust is essential aspect of a Great Place to Work® that can be developed and enhanced through the dimensions of credibility, respect, and fairness. Credibility is supported through open, accessible communications, matching human resources appropriately with the expectations of job roles, and integrity and consistency in working toward the organization's stated vision. Respectful relationships are built when employees are supported in their professional development and participate in meaningful collaborative decision-making. Respect also extends to the appreciation of employees as individuals with lives outside of work. The third component to building trust in an organization is fairness that can be achieved through equitable, non-discriminatory, and impartial treatment relative to rewards, hiring, promotions, and the management of other employee concerns. (Great Place to Work Institute®, Inc., 2005)

The Great Place to Work® Institute suggests that, as trust builds in an organization, the dimensions of pride and camaraderie also grow. Employees begin to take pride in their contributions to the organization through their individual jobs and team efforts. This feeling of pride also extends to loyalty to the products of the organization and its role in the community. Camaraderie develops in an environment that is comfortable and friendly and where members of close-knit teams are encouraged to be themselves. (Great Place to Work Institute®, Inc., 2005). According to these criteria, a Great Place to Work® is one that seeks to implement practices that enhance positive attitudes of employees which translates into improved performance throughout the entire workforce.

But how can organizations that have traditionally focused on financial measures and process quality as performance indicators begin to shift their perspective to the impact

of human attitudes on performance? Many already have. Professionals in many disciplines are familiar with Elton Mayo's studies early in the 20<sup>th</sup> century - or at least recognize the term "Hawthorne Effect" used to describe the positive impact attention from management has in influencing employee performance. This research is part of the foundation of the discipline of industrial-organizational psychology, the study of human behavior in the workplace that seeks to improve employee satisfaction and make the workplace better for employees (Society for Industrial and Organizational Psychology, Inc., n.d.). In addition to monitoring employee satisfaction, many organizations have attempted to adopt the philosophy of a "learning organization", an organizational development trend popularized in the 1990s by author Peter Senge's bestselling book *The Fifth Discipline*.

How can organizational learning or employee satisfaction be related to the overall organizational performance as described within the Great Place to Work<sup>®</sup> criteria? The current practice of HPT, with its emphasis on organizational psychology and learning, fits perfectly with the Great Place to Work<sup>®</sup> model. Gilbert's (1978) Behavior Engineering Model (BEM), one of the foundation models used by HPT practitioners to improve human performance, aligns almost exactly with the dimensions defined by the Great Place to Work<sup>®</sup> Institute. The BEM is used to identify desired performance, not just in terms of *what* people do, but also in terms of the accomplishments produced by their behaviors. After this exemplary performance is defined, practitioners identify the current or typical level of performance and the gap that exists between the two. By looking at this gap as the potential for improving performance, "problems" can be approached more positively as opportunities for achieving even greater accomplishments. Determining the causes of a gap in performance is an essential next step in applying the BEM. Gilbert (1978) states that behavior is the product of the personal characteristics of an individual (repertory) and the environment where behaviors occur. Within each of these aspects of behavior there are conditions that can be examined for deficiencies and ultimately manipulated to improve performance.

Table 4 outlines these six conditions of behavior, including basic points to be considered during cause analysis. Following the sequence of steps in the cause analysis process (designated by numbers in Table 4) is most likely to uncover the variables that can be improved with the least costly intervention strategies first. Improvements to environmental conditions generally have the greatest leverage for performance improvement. Providing people with clear expectations of and feedback on performance, the right tools for the job, and appropriate rewards and recognition for performance are often the most cost effective changes that can be implemented within a management system. It is more difficult and costly to directly impact the inherent qualities of an individual. If the performance gap is still large after the environmental supports of behavior have been manipulated, the human performance technologist may consider an instructional intervention to improve a person's knowledge and skills. The capacity and motives for an individual's behavior are conditions that are probably best met through selection and recruitment of performers, interventions that may be less cost effective to implement once a performance gap exists. Table 5 illustrates that, when the dimensions of the Great Place to Work<sup>®</sup> model are compared to the elements of the BEM, near perfect alignment is evident.

**Table 4: Gilbert's Conditions of Behavior**

	<b>Information</b>	<b>Instrumentation</b>	<b>Motivation</b>	
<b>The Environment</b>	<b>1. Data</b>	<b>2. Instruments</b>	<b>3. Incentives</b>	<b>The Management System</b>
	<ul style="list-style-type: none"> <li>• Expectations of performance are clear</li> <li>• Feedback is provided on performance</li> <li>• Performance guidance is provided</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate tools and resources are provided</li> <li>• Tools and resources are designed to match the factors of human performance</li> </ul>	<ul style="list-style-type: none"> <li>• Performance-based financial incentives are available</li> <li>• Performance-based non-financial incentives are available</li> <li>• Career development opportunities are available</li> </ul>	
<b>Repertory of the Individual</b>	<b>4. Knowledge</b>	<b>5. Capacity</b>	<b>6. Motives</b>	
	<ul style="list-style-type: none"> <li>• Individuals have the skills and knowledge needed for expected performance</li> <li>• Instruction designed to match the expectations of performance is available</li> </ul>	<ul style="list-style-type: none"> <li>• Performance is scheduled for times when people are at their best</li> <li>• People have the aptitude and physical ability to perform as expected</li> </ul>	<ul style="list-style-type: none"> <li>• Motivation is assessed</li> <li>• People are willing to work for the available incentives</li> <li>• People are recruited to match the expectations of the job</li> </ul>	

**Table 5: Dimensions of Great Place to Work® applied to Gilbert's BEM**

<b>Information</b>	<b>Instrumentation</b>	<b>Motivation</b>
<b>1. Data: Expectations and Feedback</b>	<b>2. Instruments: Tools and Resources</b>	<b>3. Incentives: Rewards and Recognition</b>
<ul style="list-style-type: none"> <li>• Clear communication of plans</li> <li>• Knowledge of how individual work contributes to organizational goals</li> <li>• Management integrity ensures alignment of words and actions</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment and resources are provided</li> <li>• Work environment is safe and healthy</li> </ul>	<ul style="list-style-type: none"> <li>• Extra work effort is appreciated</li> <li>• Employees involved in collaborative decision-making</li> <li>• Compensation, benefits, and recognition are equitable</li> <li>• Just and fair treatment of employees</li> <li>• Professional development opportunities are available</li> </ul>
<b>4. Knowledge: Skills and Training</b>	<b>5. Capacity: Aptitude and Ability</b>	<b>6. Motives: Desire to Achieve</b>
<ul style="list-style-type: none"> <li>• Professional development opportunities help prepare employees for future expectations</li> </ul>	<ul style="list-style-type: none"> <li>• People are matched appropriately to work</li> </ul>	<ul style="list-style-type: none"> <li>• Employees find their work and workplace pleasurable</li> <li>• Employees take pride in their role in the organization</li> <li>• Individuals feel respected</li> <li>• Individual and team successes are celebrated with others</li> </ul>

It is interesting to note that the emphasis of the Great Place to Work<sup>®</sup> criteria is on motivational factors. In addition to models that help determine gaps in overall work performance, the HPT practitioner also has tools at their disposal to assess specific gaps in work motivation. Richard Clark's (1999) Commitment and Necessary Effort (CaNE) model is one such tool that can assist the HPT practitioner in identifying and closing gaps in work motivation. The CaNE model examines the value employees place on work goals, emotions related to work that can enhance or impede performance, employee beliefs related to their abilities and support available to achieve goals, and factors that influence the amount of effort an individual may put forth to achieve work goals. While Clark's CaNE Model represents a synthesis of many leading theories in human motivation, there may be additional factors here that influence motivation in an individual that it does not consider. For example, the concepts of equity and collaboration in decision-making identified within the Great Place to Work<sup>®</sup> dimensions, are important considerations that are explored in other models and theories of work motivation that are also available within the HPT practitioner's "toolkit".

So if an organization puts equal emphasis on the importance of improving human factors in the workplace and the paradigm of financial performance set forth by traditional quality improvement methods, they should have a fairly comprehensive view of performance, shouldn't they? Certainly their view of performance has expanded, but is performance *within* the organization the limit to defining success?

### ***HPT and the Vision of a Corporate Citizen***

Organizations have long recognized the impact of responsible social and environmental practices on financial performance, including these considerations in strategic planning efforts. However, in light of some widely publicized scandals, human tragedies, and a reported shift in the public's expectations of corporations, organizations have begun to take a closer look at their role in society beyond the walls of the boardroom, making corporate social responsibility (CSR) and "triple bottom line" (3BL) hot topics in business. In varying numbers and degree, companies have adopted the paradigm of the 3BL or "that a corporation's ultimate success or health can and should be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance" (Norman & MacDonald, 2004, p. 243). But what does it mean to be a "good corporate citizen" and how does that translate into measures of performance?

While the Great Place to Work<sup>®</sup> award focuses primarily on the quality of the workplace, *Business Ethics* magazine's annual "100 Best Corporate Citizens" list takes a more comprehensive approach to organizational performance, considering workplace quality as but one aspect of a socially responsible organization. In similar fashion to *Fortune's* "top 100" list, *Business Ethics* magazine publishes this list annually to recognize publicly traded companies that "excel at serving a variety of stakeholders with excellence and integrity" (Graves, Waddock, & Kelly, 2005, p. 27). Organizations are rated according to strengths and concerns related to eight categories, including shareholders (financial performance) and employees (measures similar to the Great

Place to Work<sup>®</sup> criteria). However, this list extends further to include performance indicators related to governance, the local and global community, the environment, customers, and minorities and women. Figure 1 provides a more detailed look at examples of indicators in some of these categories.

**Figure 1: Corporate Citizenship Performance Indicators**

<b>Category</b>	<b>Indicator of Corporate Citizenship</b>
<b>Community</b>	<ul style="list-style-type: none"> <li>• Philanthropy</li> <li>• Foundation presence</li> <li>• Service projects</li> <li>• Educational outreach</li> <li>• Scholarships</li> <li>• Employee volunteerism</li> </ul>
<b>Minorities and Women</b>	<ul style="list-style-type: none"> <li>• Diversity of workforce at all organizational levels</li> <li>• EEOC complaints/compliance</li> <li>• Diversity program in place</li> <li>• Presence/absence of pertinent lawsuits</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>• Profit sharing program</li> <li>• Retirement benefits</li> <li>• Employee involvement, employee empowerment</li> <li>• Union relations</li> <li>• Workforce reductions</li> <li>• Wages relative to industry</li> <li>• Paid benefits</li> <li>• Family-friendly policies, parental leave</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Beneficial products</li> <li>• Pollution prevention</li> <li>• Recycling</li> <li>• Emissions control</li> <li>• Climate changes</li> <li>• Regulatory compliance</li> <li>• Energy-saving measures</li> <li>• Pertinent lawsuits</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>• Quality management programs</li> <li>• Quality awards won</li> <li>• Customer satisfaction measures</li> </ul>

(Asmus, 2004)

These indicators provide some idea of the breadth of corporate citizenship, however it can be difficult to define more concrete measures of social performance due to differences in perceptions regarding what it means to be a “good corporate citizen” and thus, how to measure performance.

*The State of Corporate Citizenship: A View from the Inside* (2004) provides the results of a survey administered to corporate executives by Boston College’s Center for Corporate Citizenship. The goals of the survey were to determine business leaders’ attitudes and perceptions related to corporate citizenship now and its potential impact in the future. When asked to rate the importance of certain activities related to good corporate citizenship, 98-99% of respondents rated treating employees well, operating with ethical

business practices, and providing safe, reliable products or services as “important” or “very important”. Ninety-five percent of respondents gave similar ratings to the traditional view of corporate citizenship as making a profit for the shareholder, obeying pertinent laws, and paying taxes. Less importance was placed on maintaining a good environmental record (90%) and improving conditions in the community (84%). Another survey item asked respondents to rate the stakeholders with the most influence on an organization’s corporate citizenship activities. Eighty-four percent attribute the most influence to customers. Shareholders (79%) and employees (67%) ranked next, with local communities perceived to have significantly less influence (32%) over corporate citizenship practices.

The majority of corporations (82%) represented in this survey recognize that good corporate citizenship helps the financial bottom line. Research supports this belief, demonstrating that good corporate citizenship generates revenue by attracting and retaining customers, enhancing capital and human assets, increasing investment and valuation, reducing costs related to operational efficiency, risk management, recruitment and retention, and building social capital through leverage of the trust of stakeholders, customers, and employees. Despite the knowledge that social responsibility can support healthy financial performance, 46% of respondents cite a “lack of resources” as the greatest obstacle to achieving corporate citizenship goals.

These results show that many organizations see value in corporate citizenship, however many find it difficult to relate the more abstract aspects of social responsibility, such as improving the local and global community, to organizational performance. Some executives may even argue that because the purpose of any business is to make money for its shareholders, issues of social responsibility cannot and should not be integrated into organizational measures of performance. It may be easier for such companies to focus on corporate citizenship in terms of making good returns for shareholders, compliance with laws and regulations, and customer satisfaction. When workplace quality issues are considered as part of corporate citizenship, organizations may attempt to adopt practices similar to those of an award-winning workplace. However, for many companies that want to be good corporate citizens, the problem of integrating employee and community-centric performance indicators with its traditional financial and quality measures of performance remains a difficult one to solve.

### ***HPT Aligned with The Malcolm Baldrige National Quality Program***

Are there companies that demonstrate success in terms of the financial bottom line, workplace quality, *and* corporate citizenship and how do they do it? There is yet another prominent award that recognizes organizations that combine all three of these perspectives and can demonstrate comprehensive performance excellence. Each year the US Department of Commerce’s National Institutes of Standards and Technology (NIST) and the American Society for Quality (ASQ) recognize a small number of organizations as “Malcolm Baldrige National Quality Award Winners”.

Social responsibility is defined by the criteria for this award as the leadership and support of “publicly important purposes” (Baldrige National Quality Program, 2005, p.

4) which includes organizational leadership and employees serving as role models for ethical behavior, as well as the promotion of organizational practices that enhance public health and safety and are environmentally sound.

But social responsibility is just one aspect of the Baldrige program. The criteria for this award epitomize the corporate paradigm shift from defining performance merely in terms of financial success, by defining “performance excellence” as an integrated approach to performance management that considers the delivery of value to customers, marketplace success, improved organizational effectiveness, and organizational and individual learning.

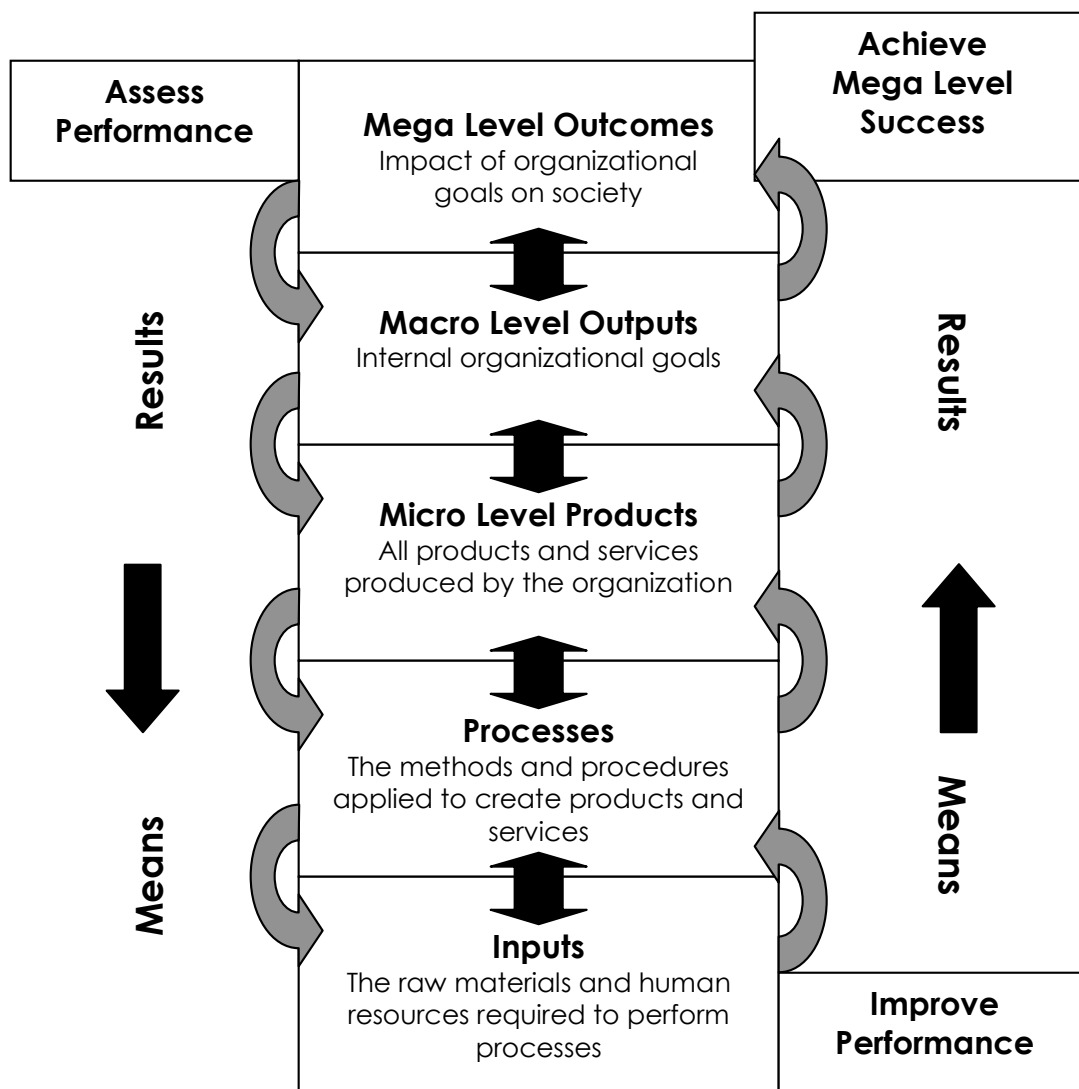
To meet the Baldrige criteria, organizations must demonstrate that they incorporate certain core values into a comprehensive, systemic, and systematic approach to organizational performance. Leadership must create performance strategies that balance the needs of a variety of stakeholders, inspire and motivate the workforce, and guide all of the decisions and actions of the organization. These strategies must focus on meeting the current and future needs not just of shareholders, but also of their customers, their employees, and the greater society in which they operate. According to these criteria, business results are determined by the alignment of strategic plans with customer and market needs. To meet these identified needs, human resources must be developed through a culture of learning embedded within the organization and practiced by the individuals working within the organization. Such a culture influences all work processes, enhancing organizational innovation, agility, and stakeholder relationships, which can be measured in terms of employee satisfaction and productivity, organizational social responsibility, and financial growth. This measurable performance further informs the decisions and strategies of leadership, resulting in an ongoing, comprehensive cycle of performance improvement.

These criteria are strikingly similar to the standards of human performance technology. While HPT can help organizations enhance isolated aspects of organizational performance such as employee productivity and process improvement, the greatest benefit of HPT’s systematic approach and broad knowledge base is realized when it is applied comprehensively and systemically throughout an organization. Like the Baldrige program, HPT does not draw lines between human performance and organizational success. Performance is recognized by both as the result of a complex, interrelated system of practices, processes, and behaviors. The Baldrige criteria define the desired state of performance, while HPT provides the methodology to achieve this measure of success.

The Organizational Elements Model (OEM) may be the HPT tool best suited to examine organizational performance from such a comprehensive perspective and it is the only HPT model that begins assessing organizational performance at the societal level. According to Kaufman and Watkins (1996), an essential component in adapting to the shifting business paradigm is to identify a specific, measurable vision in terms of external results or outcomes that impact society. Such goals are directly related to and inform the goals and results at the successive and increasingly specific levels within the organization. In other words, an organization must determine its desired impact on the world beyond its walls in order to guide the determination of the overall success of the organization.

Figure 2 illustrates the interrelationship between the organizational elements at each level of the organization. The OEM suggests that, once gaps in mega level results (the impact of the organization on society) have been determined, assessing the gap between “the way it is” and “the way it should be” at the organizational macro level will determine the desired results and current state of products at the micro level. In turn, setting performance specifications at this level helps to determine the gaps in the means - the processes or methods that yield products and the inputs or resources that are essential for those processes. Determining the gaps in means allows for the selection of interventions targeted at the specific causes of those gaps. If done correctly, the improvements to means should positively impact results, first at the micro level, then the macro level, and ultimately at the mega level as desired.

**Figure 2: The Performance Relationships within the Organizational Elements Model (OEM)**



Given the relationship between results at each level, the OEM further suggests that organizational success can be determined only to the level at which goals are set. Therefore, if an organization seeks to positively impact society, it must set goals and assess results starting at the mega level. If achieving societal outcomes is not considered as the highest standard of performance, results will stop at the next lowest level of the organization. Assessment of organizational performance should begin at the highest level desired by the organization and follow through to the methods and resources that support desired results. Interventions targeting the inputs and processes can impact performance only to the highest level at which desired performance has been defined and aligned.

Consider the OEM applied to an example of the traditional paradigm of business wherein increased shareholder profits is the only desired mega level outcome. Gaps at this level require an assessment of results at the next organizational level, most likely with a focus on an improved financial bottom-line. When financial performance does not meet the desired goals of the organization, the focus turns to assessments of the quantity and quality of the organizational products. To determine the causes of sub-standard production, the methods, procedures and practices and the human and material resources that contribute to these processes are examined for gaps or flaws. Interventions implemented to improve these gaps might include process improvements, job aids, staff training and development, or changes in raw materials used. Effective interventions should improve the quality of products to the expected standard, which in turn can increase the financial bottom line, providing greater returns to investors.

But the new business paradigm considers the societal impact of an organization beyond just the shareholders. Recall the criteria of the Corporate Citizen and Baldrige awards wherein society also includes the natural environment, local and global communities, customers, and employees. The OEM is designed specifically to consider this expanded organizational perspective and to help align the most socially responsible goals with all of the organizational elements essential for successful performance. Consider an organization that states a mega level goal as "to improve and maintain the natural environment." At macro level, one related organizational goal may be to reduce pollution put forth by all organizational operations. This measure of performance is clear, quantifiable, and is aligned with the higher-level mega goal. To demonstrate performance at this level, all products and services within that organization (the micro level) must produce results that equate to reduced pollution outputs and thus an improved natural environment. These results are determined by the processes used to create the products and services of the organization and the materials and resources that fuel those processes. If a gap is identified at the macro level (i.e., the organization is not meeting its overall goal of reduced pollution) or at the micro level (i.e., production practices are creating too much pollution), performance at the process level must be examined. It may be discovered that the processes are working as efficiently and pollution-free as possible considering the age of the equipment or the quality of the raw materials being used. When these inputs, the actual resources that go into making the product, are improved and the processes that use these resources are adapted for maximum efficiency, the results at every other level of the organization are also improved, and the desired mega level value is achieved.

Some might argue that the cost of such pollution decreasing materials or processes are too costly and negatively impact the short-term financial bottom-line of the organization. The organization must then return to its commitment and vision to improve and maintain the natural environment and balance that goal with its responsibility to shareholders. To define performance at the mega level, value to society must, at the very least, be equal to the financial returns to investors. Similarly, if an organization sets “improving the conditions within our local community” as a mega level goal and the health and welfare of its employees as a related macro level goal, truly integrated performance cannot be achieved if increased returns to shareholders take precedence over maintaining a safe and satisfied workforce. The mega level goals must be balanced and include a focus beyond short-term returns to investors. These goals must then guide the alignment of all work within the performance system.

### ***Are Organizations Applying HPT Standards?***

With these seemingly obvious correlations between the criteria of popular performance recognition programs and HPT philosophy, one would assume that HPT is a widely practiced discipline within award-winning companies. In order to determine the application of HPT, formally and informally, within award-winning organizations, publicly available documents regarding a selection of these organizations were reviewed. These documents include application information published by the Malcolm Baldrige National Quality Award Program, corporate websites, and articles published by or about these organizations by the major professional societies associated with HPT. The documents were reviewed for mentions of the application of specific models and/or the standards of HPT and any indication of active involvement in the professional societies that work to promote HPT.

### **Participation in ISPI or ASTD**

The International Association for Performance Improvement (ISPI) and the American Society for Training and Development (ASTD) are the prominent professional societies for HPT practitioners. While primarily focused on assisting training professionals to refine their practice, ASTD has recently begun an obvious shift toward linking workplace learning to performance results, an essential aspect of the HPT philosophy. The ISPI has a smaller, yet more diverse membership than the ASTD and specifically seeks to advocate the use of Human Performance Technology through development of HPT practitioner proficiency. The ISPI, in affiliation with ASTD and the APQC, offers the Certified Performance Technologist (CPT) credential to performance professionals who have proven experience and competency applying identified Standards of Performance Technology.

A first step in determining the degree to which HPT is actually practiced within award-winning companies was to examine the ISPI’s (2005) online CPT directory in order to see if and how many of these companies employ certified HPT practitioners. While this research is not exhaustive and may include some inconsistencies due to the omission or out-dated information within the online directory, it does provide some insight into the connection between award-winning companies and the practice of HPT.

The data in Table 6 shows that 12% (12 companies) of organizations on either the 2004 Best Places to Work or Corporate Citizens lists employ total of 29 CPTs, while 8% (4/50 companies) of Baldrige winners since 1990 employ a total of 13 CPTs with a range of 1-8 CPTs/organization. The employment rate of CPTs in award winning companies seems to be comparable across all three awards programs.

Table 6 also shows that several of the companies that employ CPTs are recognized with more than one award, with two Baldrige Award winners also recognized as Corporate Citizens, two organizations recognized as both Best Place to Work and Corporate Citizen, and one organization recognized with all three awards. It must be noted that companies that receive these awards must submit applications to the recognizing organization. Also, each award recognizes different types of organizations using different criteria. For example, Corporate Citizen awards are made only to those companies that are publicly traded, while the Baldrige and Best Place to Work awards can go to any organization of any size or industry that applies and meets the criteria. Further, the Best Places and Corporate Citizen awards include 100 companies annually, while the Baldrige award is limited to a maximum of only 3 organizations in 4 different categories each year.

**Table 6: Number of Certified Performance Technologists (CPTs) Employed by Award-Winning Companies**

Baldrige Award		Best Places to Work 2004		Corporate Citizen 2004	
Company Name	Number of CPTs	Company Name	Number of CPTs	Company Name	Number of CPTs
Boeing ('03)	8	Microsoft	8	Hewlett-Packard	12
AT&T ('92)	2	Eli Lilly	5	Intel	3
IBM ('90)	2	Intel	3	Medtronic	3
Motorola ('89, '02)	1	Medtronic	3	AT&T	2
		IBM	2	IBM	2
		Texas Instruments	2	3M	1
		Amgen	1	Adolph Coors	1
		CDW	1	Agilent Tech.	1
		Duncan Aviation	1	Air Products	1
		Genetech	1	Baxter Intl	1
		QUALCOMM	1	Kellogg	1
		Washington Mutual	1	Motorola	1
4 companies/50 since 1990 8%	13 (3.25/co.)	12 companies/100 12%	29 (2.4/co.)	12 companies/100 12%	29 (2.4/co.)
Average CPT employment rate in Baldrige companies 0.26/company		Average CPT employment rate in Best Places to Work 0.29/company		Average CPT employment rate in Corporate Citizens 0.29/company	

It is also interesting to note that a website search of consulting firms identified from the CPT online directory reveals that, when the firm has published corporate client names, several major CPT consulting firms have worked with at least one and frequently several “award-winning” companies.

A review of information available on the ASTD website revealed that its 2003 Board of Directors included three members who hold or have held senior positions as learning and development or performance (one is a clinical psychologist) professionals in award-winning organizations. The ASTD website also revealed occasional references to the Baldrige and Great Place to Work® awards in national and chapter conference presentations and in resources available in their online bookstore. The July 2005 issue of *T+D*, ASTD’s monthly magazine, includes a reference to *Business Ethics* 2005 Corporate Citizens list.

Another online search found the June 2005 issue of *Chief Learning Officer’s* online magazine that offered an article relating the history of organizational learning at one multiple award-winning company. The author, a former employee of this company stated: “More presidents of ISPI and ASTD can tie themselves to [*this company*] than any other company.”

It appears that HPT is being applied by some organizations, but the extent to which is unclear.

### **Is HPT Applied by Baldrige Award Winners?**

Given the close alignment between the Baldrige award criteria and the standards of HPT, one might expect to see a more overt application of these standards described by Baldrige award winning companies. The Baldrige Award website publishes the applications and profiles of companies that have won this award since 1988 and within these applications is a wealth of information related to the specific performance improvement models and practices, as well as detailed information about performance management systems, human resources management, social responsibility practices and measures, and reward and motivation programs. A handful of these applications were reviewed for explicit mention of HPT standards or models. This was not intended to be an exhaustive or scientific data collection. Instead, the purpose was simply to gather anecdotal evidence of the application of HPT as a starting point for further study.

Sections of the available documents were reviewed for:

- HPT models and standards described within their performance management methods,
- Social responsibility and workplace quality goals defined in their vision/mission statements, and
- The overall variety of performance measures/indicators and degree of integration throughout various organizational levels

The review revealed *no specific mention of human performance technology as a practice used to improve organizational performance*. Instead, applications include frequent references to

Balanced Scorecards, Deming/PDSA methodology (TQM), Six Sigma, and "Performance Excellence". This is despite the fact that a principle goal of both the Baldrige criteria and HPT standards is to approach the complexities of organizational performance systemically and systematically in order to align all aspects of performance, financial and human, with an organization's definition of success.

Such alignment begins with defining organizational success through mission and vision statements and strategic plans. All applications reviewed described integrated measures of financial performance within their strategic plans. This is not surprising. But what about measures of social responsibility and workplace quality? The OEM requires that organizational societal impact be explicit within the vision, values, and goals of the company. It was rare to see an overt statement of corporate responsibility in a vision or mission statement within reviewed documents, though many companies relate employee and customer satisfaction as high-level goals. Few, if any, go beyond customers and employees by referencing the larger community at the mega level. Most companies seem to integrate their environmental, customer, and employee responsibilities into their performance management systems. However, performance is still primarily defined by product/process quality and financial success.

If Baldrige award-winners generally are not including statements of social responsibility at the highest organizational level, where do they begin to address these measures? All of these organizations described social responsibility activities and their associated measures, but no application related these measures to performance at the societal, process, or input levels. Measures of environmental compliance, the number of hours volunteered, or dollars donated by the entire organization to charitable or community causes are reported, but there is no evidence of how these measures contribute to performance at all levels of the organization. One is led to wonder how these measures are actually used as part of a comprehensive organizational performance management system suggested by the Baldrige criteria and if the measures that are used are actually the most appropriate to ensure organizational success at all levels. For example, how does an organization relate an increase in the dollars donated to charity to the performance of individuals, work groups, and the entire organization? Without such a relationship, how is an organization able to claim that social responsibility is integrated into their performance management system and thus relate the positive impact that the organization has on the greater society? Such measures seem even more disconnected from an integrated approach to performance when the organizational vision does not include overt goals related to the organization's contributions to the greater society. Without this integration, activities perceived to be mega level goals, such as charitable donations and environmental compliance, are simply "good things" that the organization endorses.

Given that corporate social responsibility can be difficult to define by some organizations, it is not surprising that such a disconnect may exist. Nor is it surprising that companies recognized as good corporate citizens may fall short in recognizing the boundaries to which social responsibility can extend. For example, even when companies reported monitoring the performance of their suppliers, the measures of quality applied extended only to those factors that directly impacted that organization such as on-time delivery and costs. Other factors such as suppliers' employee relation practices and community involvement were not taken into consideration.

Thus it seems that community involvement and other socially responsible activities may be isolated, “nice things to do” that, though measured, organizations find difficult to integrate into performance at all levels of the organization.

Corporate citizenship may be a somewhat abstract measure of performance for many organizations, especially when compared to a more concrete measure such as workplace quality. How do Baldrige winners define and integrate the environmental and individual factors of human performance to create great workplaces? In describing efforts to enhance workplace quality, increased employee satisfaction and a safe work environment were measures described within all applications reviewed. Employee participation in satisfaction surveys, ratings of loyalty to the organization, and turnover rates were commonly cited as parts of overall employee satisfaction. Decreased numbers of reported injuries or safety incidents and lost work days to injury or illness were used to describe the overall safety of the workplace.

Opportunities for employee learning and development were also frequently cited within the applications. In fact, one organization correlates employee satisfaction to the effectiveness of its leadership training program (Boeing, 2003). Other companies report the measurement of training effectiveness by describing the methodologies used to ensure that training is designed to meet the needs of the employees and that such training is in line with organizational goals. One organization described the use of measuring training satisfaction through “end of class surveys and the application of new knowledge and skills (Medrad, Inc., 2003, p. 49). Most often, however, the measures of organizational learning were described in terms of the number of training hours conducted, increased training expenditures (including tuition reimbursement), and increased attendance for training initiatives.

Employee performance rewards and incentive systems are also prevalent throughout the applications, but few organizations seem tie these to individual performance. Most often, employees receive financial rewards if and when the entire organization performs well. Common measures of this include increased dollars paid out in bonuses, rewards, and profit sharing. All companies offer non-financial rewards and recognition measured by the number of employees participating in such programs. Some organizations also report employee involvement (an incentive program), relating the number of employee ideas used to organizational savings. This may be the closest that some organizations come to linking one aspect of individual employee performance to higher-level organizational performance.

## **Summary**

Baldrige award-winners represent those companies that are doing the best job at integrating performance at all levels of the organization through a diverse set of measures. However, this overview of their practices, as well as those of Great Places to Work<sup>®</sup> and Corporate Citizens, suggests that even the best companies which are intentionally attempting to apply systems to address financial, workplace, and socially

responsible performance indicators may find it difficult to fully align these seemingly dissimilar measures.

After this review, the premise that organizations attempting to manage performance comprehensively, systemically, and systematically can benefit from Human Performance Technology is strengthened. HPT can help organizations define performance by first addressing the desired impact on the greater society. This definition of socially responsible performance can then be used to inform and guide the definition of organizational performance in terms of financial and employee-centric measures. From the HPT perspective, quality, productivity, and revenue are inherently aligned with employee learning, innovation, motivation, and overall satisfaction at all levels of organizational performance. HPT provides organizations with a variety of tools to assess gaps in this alignment that reveal themselves as performance deficits. Application of HPT standards allows companies to use both “broad strokes” to determine the systemic influences on performance problems and “fine strokes” to determine more targeted root causes within processes and individual contributions to work. Such a comprehensive approach demonstrates the recognition that no single tool or model can sufficiently address the complexities of performance. Instead HPT offers a paradigm of performance that combines the expertise and effectiveness of many different schools of thought. It is not just about increasing quality and profits by improving processes and reducing defects, nor is it just about improving employee satisfaction or creating effective instructional programs. The focus of HPT is on addressing the wide spectrum of issues that impact performance guided by a clear definition of organizational success. So who needs HPT?...Any organization that wants to integrate financial success, workplace quality, and social responsibility as the heart of its culture and then use these indicators to improve performance throughout its operations.

## References

- American Society for Training and Development (2005, July). Companies that set the standard. *T+D*, 15.
- Anthony, J. (n.d.). *Some pros and cons of six sigma*. Retrieved June 4, 2005 from [http://www.qualityamerica.com/knowledgecente/knowctrQuality\\_Management\\_Articles.htm](http://www.qualityamerica.com/knowledgecente/knowctrQuality_Management_Articles.htm)
- Asmus, P. (2004). 100 best corporate citizens for 2004 [Electronic version]. *Business ethics*, (18) 1. Retrieved May 24, 2005 from <http://www.business-ethics.com/100best.htm>
- Baldrige National Quality Program. (2002). *Malcolm Baldrige national quality award 1990 winner: Federal Express Corporation*. Retrieved June 25, 2005 from [http://www.quality.nist.gov/FederalExpress\\_90.htm](http://www.quality.nist.gov/FederalExpress_90.htm)
- Baldrige National Quality Program. (2005). *2005 criteria for performance excellence*. Retrieved June 5 from [http://www.quality.nist.gov/Business\\_Criteria.htm](http://www.quality.nist.gov/Business_Criteria.htm)
- Boeing Aerospace Support. (2003). *2003 Malcolm Baldrige national quality award application summary*. Retrieved June 25, 2005 from [http://www.quality.nist.gov/PDF\\_files/Boeing\\_Aerospace\\_Application\\_Summary.pdf](http://www.quality.nist.gov/PDF_files/Boeing_Aerospace_Application_Summary.pdf)
- Boston College, Center for Corporate Citizenship. (2004). *The state of corporate citizenship: A view from the inside 2003-2004*. Retrieved June 1, 2005 from [http://www.bcccc.net/\\_uploads/documents/live/state\\_cc\\_report.pdf](http://www.bcccc.net/_uploads/documents/live/state_cc_report.pdf)
- Clarke American Checks, Inc. (2001). *2001 Malcolm Baldrige national quality award application summary*. Retrieved June 25, 2005 from [http://www.quality.nist.gov/PDF\\_files/Clarke\\_Application\\_Summary.pdf](http://www.quality.nist.gov/PDF_files/Clarke_Application_Summary.pdf)
- Clark, R. E. (1999). The CaNE model of motivation to learn and work: A two-stage process of goal commitment and effort. Lowyck, J. (Ed.) *Trends in Corporate Training*. Leuven, Belgium: University of Belgium Press.
- Fuller, J. & Farrington, J. (1999). *From training to performance improvement: Navigating the transition*. San Francisco: Jossey-Bass Pfeiffer.
- Gayeski, D. (1999). Frontiers for human performance technology in contemporary organizations. In H. Stolovich & E. Keeps (Eds.), *The handbook of human performance technology* (2<sup>nd</sup> ed.) (pp. 936-955). San Francisco: Jossey-Bass Pfeiffer.
- Gilbert, T. (1978). The behavior engineering model. In T. Gilbert, *Human competence: Engineering worthy performance* (pp. 73-105). New York: McGraw-Hill.

- Graves, S. P., Waddock, S., & Kelly, M. (2005). How the list is put together: The methodology behind the corporate citizenship rankings. *Business Ethics*, (19)1, 27.
- Great Place to Work® Institute, Inc. (2005). *The dimensions of a Great Place to Work®*. Retrieved June 8, 2005 from <http://www.greatplacetowork.com/great/dimensions.php>
- International Society for Performance Improvement. (n.d.) *What is human performance technology?* Retrieved July 31, 2005 from <http://ispi.org/>
- International Society for Performance Improvement. (2002). *ISPI's performance technology standards*. Retrieved July 31, 2005 from <http://www.certifiedpt.org/standards.pdf>
- International Society for Performance Improvement. (2005). *On-line CPT directory*. Retrieved July 15, 2005 from <http://performance.ispi.org/StaticContent/StaticPages/info/cptList2.cfm>
- Kaufman, R. & Watkins, R. (1996). An update on relating needs assessment and needs analysis. *Performance improvement*, 35(10), 10-13.
- Langdon, D. G. (1999). The language of work. In H. Stolovitch & E. Keeps (Eds.), *Handbook of human performance technology* (2nd ed.) (pp. 260-280). San Francisco, CA: Jossey-Bass Pfeiffer.
- Medrad, Inc. (2003). *2003 Malcolm Baldrige national quality award application summary*. Retrieved June 25, 2005 from [http://www.quality.nist.gov/PDF\\_files/Medrad\\_Application\\_Summary.pdf](http://www.quality.nist.gov/PDF_files/Medrad_Application_Summary.pdf)
- Motorola Commercial, Government & Industrial Solutions. (2002). *2002 Malcolm Baldrige national quality award application summary*. Retrieved June 25, 2005 from [http://www.quality.nist.gov/PDF\\_files/MotorolaCGISS\\_Application\\_Summary.pdf](http://www.quality.nist.gov/PDF_files/MotorolaCGISS_Application_Summary.pdf)
- Norman, W. & MacDonald, C. (2004). Getting to the bottom of "triple bottom line". *Business ethics quarterly*, (14)2, 243-262.
- Performance International. (n.d.) *The process we use*. Retrieved November 15, 2004 from <http://www.performanceinternational.com/processframe.htm>
- Roseberg, M. J. (2005, June). AT&T's golden age of training. *Chief Learning Officer, CLOmedia.com*. Retrieved July 15, 2005 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=989&zonedid=30](http://www.clomedia.com/content/templates/clo_article.asp?articleid=989&zonedid=30)
- Senge, P. M. (1990). *The fifth discipline: The art & science of the learning organization*. New York: Currency Doubleday.

Society for Industrial and Organizational Psychology, Inc. (n.d.). *What are SIOP and I-O psychologists?* Retrieved June 20, 2005 from <http://www.siop.org/Media/What.htm>

Stolovich, H. D. & Keeps, E. J.. (1999). What is human performance technology? In H. Stolovich & E. Keeps (Eds.), *The handbook of human performance technology* (2<sup>nd</sup> ed.) (pp. 936-955). San Francisco: Jossey-Bass Pfeiffer.

The Bama Companies, Inc. (2004). *2004 Malcolm Baldrige national quality award application summary*. Retrieved June 25, 2005 from [http://www.quality.nist.gov/PDF\\_files/Bama\\_Application\\_Summary.pdf](http://www.quality.nist.gov/PDF_files/Bama_Application_Summary.pdf)