

THE ROLE OF KNOWLEDGE MANAGEMENT IN BALDRIGE CRITERIA:
IMPLICATIONS FOR QUALITY MANAGEMENT PRACTICES

MESUT AKDERE
University of Wisconsin-Milwaukee
Department of Administrative Leadership
2400 East Hartford Avenue, Enderis Hall 629
Milwaukee, WI 53211
Tel.: (414) 229-6684
Fax: (414) 229-5300
Email: akdere@uwm.edu

THE ROLE OF KNOWLEDGE MANAGEMENT IN BALDRIGE CRITERIA: IMPLICATIONS FOR QUALITY MANAGEMENT PRACTICES

Abstract

Knowledge management involves “knowledge” and “information”. Both of these concepts lie at the heart of Human Resource Development (HRD) practice in the workplace. In fact, knowledge management strongly supports both paradigms of HRD—learning and performance. The problem is that knowledge management and quality management are viewed as unrelated fields and their interaction has not been fully explored. Understanding these two important organizational processes will enable organizational practitioners to develop and design effective programs and services that fully utilize both processes in the organization. Considering knowledge management as a key element in quality management process can help increase knowledge creation and utilization within the organization. This article discusses the relationship between knowledge management and quality management, and demonstrates its applicability for enhancing organizational capacity and capability to achieve performance excellence.

Keyword: Knowledge management, quality management, Baldrige

The role of knowledge management and the process for managing it has become vital for the survival of the organization. Although an evolving paradigm in management (Gourlay, 2001), knowledge management continues to serve as a strategic business function in the organization and has an impact on human capital, teamwork, and overall organizational performance and effectiveness (Feng, Chen, & Liou, 2005; Lee, Lee, & Kang, 2005; Marques & Simon, 2006; Yenyurt, Cavusgil, & Hult, 2005).

Knowledge, on the other hand, is considered an integral part of the quality management process to achieve continuous improvement and performance excellence. The quality management requires collection and analysis of data in all its stages. Without knowledge sharing in the organization, quality management cannot exist. Within the quality management framework, knowledge management refers to the processes of data collection, information sharing, and knowledge creation.

To present an applied perspective of knowledge management within quality management practice, this paper will use the Baldrige framework for performance excellence in business to demonstrate the relationships and interdependence between knowledge management and quality management practices in the organization (Baldrige, 2009). The paper will further examine the role of knowledge management in the quality management process and discuss its implications for improving overall organizational learning and performance excellence.

Knowledge Management & The Organization

The personal characteristics of those leading the organization as well as the organizational culture are instrumental in determining the process of data gathering, information sharing, and knowledge creation (Bock & Kim, 2002; Marshall & Stohl, 1993). This further impacts the ability of the organization to become a learning organization in which organizations utilize information in sense making, knowledge formulation, and decision making (Desouza & Awazu, 2004; McPhee, Corman, & Dooley, 2002; Ravishankar & Pan, 2008) as well as their overall organizational performance (Choi, Poon, & Davis, 2008; Marques & Simon, 2006). The semiotic link between knowledge and performance is crucial in the success and well-being of the organization.

The debate on the role of knowledge management in the organization has become much more complex during the last decade because the nature of knowledge utilized and consumed on a daily basis in a given organization has also become complex due to the continuous progress in technology advances and inventions and their implications for the workplace (Ciborra & Andreu, 2001; Dutta, 1997; Gottschalk, 2000). Companies generally believe that by utilizing technology in knowledge management processes, they will have a strategic advantage over their competitors (Shrivastava, 1998). We are now at the beginning of a new era where companies use software to manage knowledge. Noe (2008) suggests a number of ways that the organization can create and share knowledge. Some of these include using technology and software that allows employees to store information and share it with others; publishing directories that list what employees do and the type of knowledge they have; and developing informational maps that identify where specific knowledge is stored in the organization (p. 185). However, this article argues that while such technologies unarguably will contribute to the enhancement of

organizational ability and the increase of organizational capacity to generate and catalog information, they will not necessarily contribute to knowledge creation and formulation in the organization. Hence the human aspect of the organization has to be taken into greater account when discussing knowledge management and its potential to the organization. One of the ways to approach this is through quality management practices. The next section of the paper will first introduce quality management and then will focus on the Malcolm Baldrige National Quality Award criteria for business performance excellence and innovation to demonstrate how knowledge management can be an integral part of organizational processes through quality management practices.

Quality Management

Quality Defined

Quality is defined as “an essential property of products (goods and services) in which high quality products are those that meet customer needs, do not fail during use, and pose no threat to human well-being” (Juran, 2004, p. ix). Quality management, however, is:

an integrated approach to achieving and sustaining high quality output, focusing on the maintenance and continuous improvement of processes and defect prevention at all levels and in all functions of the organization, in order to meet or exceed customer expectations. (Flynn, Schroeder, & Sakakibara, 1994, p. 342)

This paper identifies quality management as a holistic process of conformance to standards at all business levels to eliminate errors and mistakes to meet required expectations.

The challenge of performance improvement has been intensified with the struggle to manage quality in the workplace. Increased competition, international trade, and globalization have led multinational companies to focus on the concept of quality in the last few decades. The increasing role and significance of quality in business led many organizations to conclude that effective quality management can enhance their competitive abilities and provide strategic advantages in the marketplace (Anderson, Rungtusanatham, & Schroeder, 1994).

Organizations have traditionally adopted quality management and performance improvement tools as a result of their need to reform to improve effectiveness, quality, productivity, and performance of various organizational elements, such as employees, organizational structure, management, and technology (Robbins, Summers, Miller, & Hendrix, 2000). Martin (1997) states that organizations wanting to achieve their vision, mission, and institutional goals, and effectively implement quality management initiatives, need to adopt new management philosophies and strategies to enable their leadership and employees to improve command, control, and communications of the organizations. Today, the goal of achieving quality surrounds all types of industries including wholesale and retail trade, manufacturing, business services, education, and particularly health services.

The Baldrige Criteria Quality Framework

One of the areas of focus of business has become knowledge and knowledge management. In addition, employees’ changing skills, attitudes, and perceptions toward

the workplace, increasing demand in technology applications to modify work methods and tools, changing authority relations in organizational structure, and improving organizational communications and physical workplace arrangements have been contributing to organizations' struggle to improve quality, and increase productivity and performance. This struggle often gets interpreted as organizations are increasingly under pressure to do more with fewer resources and to provide higher quality products and services at competitive costs. Optimizing scarce resources through quality management and knowledge management is one approach to address these growing concerns in the workplace.

Starting with the 1980s, U.S. business began to adopt quality management into their everyday business practices as a result of increased global competition and higher quality products of foreign companies in the local markets. The consumers began to pay attention to the quality of a product and consumer preference trends began to shift. Technological advances resulted in complex products which required higher levels of production with a focus on quality, cost, and competitiveness.

Edward Deming introduced the concept of quality to the U.S. as a result of his work, experience, and expertise in Japan whose products were, at the time, considered as the highest quality even in the local U.S. markets (1986). The U.S. government established the Federal Quality Prototype Award and the President's Awards for governmental agencies in 1988. In 1995, the Malcolm Baldrige National Quality Award was established. The reactions of U.S. businesses and industries have been very positive to this nationwide quality initiative and many companies implemented quality management practices as a core business strategy such as Motorola, Chrysler, General Motors, Ford, and AT&T Power Systems (Evans & Lindsay, 2005). A study by Tamimi and Sebastianelli (1996) presents various themes highlighting various aspects of quality management implemented in the organization, such as perfection, consistency, eliminating waste, speed of delivery, compliance with policies and procedures, providing a good and usable product, doing it right the first time, delighting or pleasing customers, and total customer service and satisfaction. Quality is a multi-dimensional process in addressing the significant complexity and challenges the organization faces. In the core of quality management is knowledge. Without a systematic approach to knowledge, quality management processes cannot be successful. This is also evident in the Baldrige Criteria for Performance Excellence. As illustrated in Figure 1, the Baldrige Criteria for Performance Excellence (2009) has a number of categories that are included in the process. Based on the 2009 Baldrige framework, each a category is described briefly in the following section of the paper.

The Baldrige Criteria for Performance Excellence has two overarching categories—the *Organizational Profile* and the *Measurement, Analysis, and Knowledge Management*. The *Organizational Profile* can be identified as a snapshot of an organization, the key influences on how an organization operates in terms of its environment and relationships, and the key challenges it faces. The *Measurement, Analysis, and Knowledge Management* category, on the other hand, examines how an organization selects, gathers, analyzes, manages, and improves its data, information, and knowledge assets, how it manages its information technology, and how it reviews and uses reviews to improve its performance.

-----Insert Figure 1 About Here-----

These two categories, however, are integrated with six other categories as part of this complex process. The first category is the *Leadership* category which examines how an organization's senior leaders' personal actions guide and sustain the organization, and how the organization's governance system fulfills its legal, ethical, and societal responsibilities and supports its key communities. The next category in the Criteria is *Strategic Planning*. It examines how an organization develops strategic objectives and action plans, how the chosen strategic objectives and action plans are deployed and changed if circumstances require, and how progress is measured. The *Customer Focus* is another category in the Baldrige framework. It examines how an organization engages its customers for long-term marketplace success. This engagement strategy includes how an organization builds a customer-focused culture and how an organization listens to the voice of its customer and uses this information to improve and identify opportunities for innovation. The *Workforce Focus* category of Baldrige, on the other hand, examines how an organization engages, manages, and develops its workforce to utilize its full potential in alignment with the organization's overall mission, strategy, and action plans. The category further examines the ability of the organization to assess workforce capability and capacity needs and to build a workforce environment conducive to high performance. The *Process Management* is the next category in the quality framework. The category examines how an organization designs its work and how it designs, manages, and improves its key processes for implementing those work systems to deliver customer value and achieve organizational success and sustainability as well as the organization's readiness for emergencies. The *Results Category* of the Baldrige quality framework examines an organization's performance and improvement in all key areas—product outcomes, customer-focused outcomes, financial and market outcomes, workforce-focused outcomes, process effectiveness outcomes, and leadership outcomes. Performance levels are examined relative to those of competitors and other organizations with similar product and service offerings.

Knowledge Management within the Baldrige Framework

The Baldrige framework for performance excellence heavily depends on the 'linear process' of knowledge management. Engelkemeyer (2004) argues that the Baldrige framework provides with "a vehicle to reflect on and articulate who they are and how they provide benefit to their stakeholders" (p. 54). This requires data collection at all levels in the process. The collected data is then transformed into information in special quality control units throughout the organizations. These units then combine all information into meaningful clusters of information where knowledge is created to feed back into the system to enhance and increase its capacity. Thus, the organization is presented with the framework to thoroughly utilize its knowledge management ability at all organizational levels. Furthermore, quality management enables the organization to transform its clusters of data into collective knowledge using the system perspective.

Despite its benefits to the continuous improvement process, there are some issues in the way Baldrige criteria frames knowledge management process. As illustrated in Figure 1, the Baldrige framework considers knowledge management in conjunction with measurement and analysis. This arguably brings limitations to the full potentials of knowledge management process in the organization. Ruben (2007) points out that the framework requires "knowledge of the needs" (p. 66). Thus, the Baldrige framework

focuses knowledge management as part of the needs approach and consequently places it along with measurement and analysis. Over the years, the Baldrige framework increased its allocated scores to measurement, analysis, and knowledge management category from approximately 30% to 45% (Shirks, Weeks, & Stein, 2002). This category has now the third highest point values with 90 points after 'results' category with 450 points and 'leadership' category with 120 points (Baldrige, 2009). This paper suggests that knowledge management process offers much more than just dealing with needs. In another issue, the Baldrige framework places knowledge management as an overarching component instead of framing it as a core component such as leadership, strategic planning, customer and employee focus, and process management. Identifying knowledge management solely in this spectrum would help the organization implement knowledge management at all organizational levels, placing knowledge management as one of the core components of the Baldrige framework.

Anderson, Rungtusanatham, and Schroeder (1994) proposed the first stages of a quality management framework which centers on learning. The entire quality management cycle is vulnerable without the ability to learn and share knowledge with all involved organizational partners. Knowledge management as an independent process in the Baldrige framework will enable the knowledge flow and sharing across units and departments, and ultimately achieving learning in the organization. Furthermore, this reconsideration will help the Baldrige framework to better utilize measurement and analysis to improve organizational processes and practices; particularly in identifying the root causes of production defects or service shortfalls that impede achieving organizational the standards for the outputs.

Finally, organizations generally have the tendency to implement Baldrige framework as another improvement effort, rather than a continuous improvement strategy, limited to a number of participating units or departments in the process. As such, knowledge management, in this process, usually treated as "knowledge sharing" among such units or departments. Instead of an organization-wide integration of the knowledge management process, the focus of the Baldrige framework is limited to whether the measures are aligned with other targets, goals, indicators, and quantifiable issues of high importance (Ohldin, et al, 2002). This naturally excludes the rest of the organization and consequently impairs the knowledge management function. In summary, this paper argues that the Baldrige framework should be improved to present a model that thoroughly centers knowledge management as a core quality management practice that enhances all aspects of the framework through gathering, analyzing, interpreting relevant information and sharing it with the entire organization.

Implications of Knowledge Management and Quality Management in HRD

This paper presented an analysis of knowledge management process within the quality management framework with particular emphasis on the Baldrige framework. It is now time to turn the focus on the implications of knowledge management and quality management in HRD. The following section of the paper will discuss the implication both for research and practice.

Implications for HRD Research

During the course of its establishment in the last decade, the Baldrige framework significantly helped eradicate the poor notion of quality—quality control—in the organization, and helped adopt quality management as a business process. However, more empirical research is needed to help companies comprehend the Baldrige framework's bottom-line contribution to the organizational performance. To support this effort, there have been some studies in the literature. Meyer and Collier (2001), for example, tested the causal relationships in the Baldrige framework and found all the dimensions of measurement to be valid and reliable. They also noted that knowledge management is directly related to strategic planning, human resources, organizational performance, and customer satisfaction. In another study, Fisher, Dauterive, and Barfield (2001) hypothesized whether presence or absence of a quality award process had an effect on economic growth in a state; and concluded that quality award process brings economic returns to a state. In a more comprehensive study, Prazasnyski and Tai examined the impact of Baldrige framework on the stock market performance of its recipients. They found that the companies that are the recipients of the Baldrige award outperformed the market. In a recent study, organization-wide implementation of quality management in hospitals in 48 states of the U.S. resulted in significant performance improvement and reducing medical errors (Hosford, 2008). Moen (2007) argued that the Baldrige framework helped the organization successfully develop and implement a strategic plan where knowledge management played a vital role. The existing literature, although very little, demonstrates the quality management practices in organizational performance. However, there is still one issue to be addressed: How should each organization study the Baldrige constructs and examine the relationship among these categories? Furthermore, what do these results mean for everyday practice in the organization? From a practice perspective, more research is needed to help HRD professionals develop measures and benchmarks that would demonstrate such links between knowledge management and quality management, and reinforce the conviction that quality does pay.

As an evolving field, quality management is still in need of a tested and validated theory. Although the attempts to develop a theory of quality management date back to early 1990s, they have never been completed. HRD research has the ability to examine various theories for their fit for the HRD practice. In this regard, a theory of quality management can be developed and tested within the realm of HRD practice. It should be noted that both quality management and HRD value learning at their organizational functions. This will further help the Baldrige framework to re-evaluate its inadequate approach to knowledge management and place it as a core business process that transcends beyond measurement and analysis.

Implications for HRD Practice

Companies around the globe are facing one of the direst and challenging economic downturns in global history. Many of them are reporting record losses and face mass layoffs. In such tumultuous times, companies need to increase their efforts on managing knowledge more than ever. Amin and Cohendet (2004) argue that “firms will face mounting pressure to explore new knowledge or exploit existing knowledge to become ‘learning organizations’, to maximize innovation and creativity, to become light-footed and adaptable” (p. 1). Furthermore, in a fiercely competitive market environment,

the demand to properly utilize quality management practices in organizational processes to achieve high quality products and services is at its peak. Bajaria (2000) argues that knowledge creation and knowledge management are inseparable with the quality management perspective. Incorporating knowledge management techniques into a quality management system leads to increased use of knowledge management and organizational performance (Coyle, 2003; Desouza & Awazu, 2004). The way quality management is implemented in an organization and the tools and methods for this application may vary. Therefore, HRD professionals with their expertise in Training & Development and Organization Development are well-suited for facilitating the Baldrige award process.

Understanding the relationship between knowledge management and quality management will provide HRD professionals with a venue to argue for the utility of their programs from a learning perspective. The studies that have validated the very point of quality management and its contribution to organizational performance undoubtedly paved the way for a convincing argument to make the case for the relationships between the two HRD paradigms—learning and performance. The HRD challenge in this case is to “develop, maintain, and use these data to improve performance (Griffith & White, 2005, p. 180). The Baldrige framework is a “public domain organizational assessment approach” (Leist, et al, 2004, p. 62). As such, it provides the HRD professional with a unique opportunity to integrate an established framework in everyday work and their business functions. In this sense, the “balanced and holistic Baldrige criteria support a systems perspective and a focus on results (Jasinski, 2004, p. 27).

The organization “implements structures, business controls, and other disciplines to be able to manage consistently and support its mission” (Furst-Bowe, & Bauer, 2007, p. 12). This paper calls for further reconsideration of the practice of knowledge management within the quality management framework. For example, in business, often times, the functions of knowledge management and quality management work separately and independently—Chief Knowledge Management Officer versus Director of Quality Management. While the paper certainly recognizes each field as individual and independent, the proposition of this paper is that both fields have the potential to complement each other’s processes and business areas to improve their individual work systems, enhance departmental effectiveness, and ultimately, contribute to organizational performance. From this perspective, knowledge management and quality management are considered interdependent and the absence or insufficiency of one of them may lead to failure in the other one.

References

- Amin, A., & Cohendet, P. (2004). *Architectures of knowledge: Firms, capabilities, and communities*. New York: Oxford University Press.
- Anderson, J. C., Rungtusanatham, M., & Schroeder, R. G. (1994). A theory of quality management underlying the Deming management method. *Academy of Management Review*, 19(3), 472-509.
- Bajaria, H. J. (2000). Knowledge creation and management: Inseparable twins. *Total Quality Management*, 11(4/5/6), 562-573.
- Baldrige National Quality Award Criteria. (2009). *Criteria for performance excellence*. Retrieved January 10, 2009, from http://www.baldrige.nist.gov/PDF_files/2009_2010_Business_Nonprofit_Criteria.pdf.
- Bock, G. W., & Kim, Y. G. (2002). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal*, 15(2), 14-21.
- Choi, B., Poon, S. K., & Davis, J. G. (2008). Effects of knowledge management strategy on organizational performance: A complementary theory-based approach. *The International Journal of Management Science*, 36(1), 234-251.
- Ciborra, C. U., & Andreu, R. (2001). Sharing knowledge across boundaries. *Journal of Information Technology*, 16(1), 73-81.
- Deming, E. W. (1986). *Out of the crisis*. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.
- Desouza, K. C., & Awazu, Y. (2004). "Need to know": Organizational knowledge and management perspective. *Information Knowledge Systems Management*, 4(1), 1-14.
- Dutta, S. (1997). Strategies for implementing knowledge-based systems. *IEEE Transactions on engineering management*, 44(1), 79-90.
- Engelkemeyer, S. W. (2004). Resources for managing our institutions in these turbulent times. *Change*, 36(1), 53-56.
- Evans, J. R., & Lindsay, W. M. (2005). *The management and control of quality* (6th ed.). Mason, OH: Thomson-South-Western.
- Feng, K., Chen, E. T., Liou, W. (2005). Implementation of knowledge management systems and firm performance: An empirical investigation. *Journal of Computer Information Systems*, 46(2), 92-104.
- Fisher, C., Dauterive, J., & Barfield, J. (2002). Economic impacts of quality awards: Does offering an award bring returns to the state? *Total Quality Management*, 12(7&8), 981-987.
- Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations Management* 11(4), 339-366.
- Furst-Bowe, J. A., & Bauer, R. A. (2007). Application of the Baldrige model for innovation in higher education. *New Directions for Higher Education*, 137(1), 5-14.
- Gottschalk, P. (2000). Strategic knowledge networks: The case of IT support for Eurojuris law firms in Norway. *International Review of Law Computers & Technology*, 14(1), 115-129.

- Gourlay, S. (2001). Knowledge management and HRD. *Human Resource Development International*, 4(1), 27-46.
- Griffith, J. R., & White, K. R. (2005). The revolution in hospital management. *Journal of Healthcare Management*, 50(3), 170-189.
- Hosford, S. B. (2008). Hospital progress in reducing error: The impact of external interventions. *Hospital Topics*, 86(1), 9-19.
- Jasinski, J. (2004). Strategic planning via Baldrige: Lessons learned. *New Directions for Institutional Research*, 2004(123), 27-31.
- Juran, J. M. (2004). *Architect of quality: The autobiography of Dr. Joseph M. Juran*. New York: McGraw-Hill.
- Lee, K. C., Lee, S., & Kang, W. (2005). KMPI: Measuring knowledge management performance. *Information & Management*, 42(3), 470-482.
- Leist, J. C., Gilman, S. C., Cullen, R. J., & Sklar, J. (2004). Using Baldrige Criteria to meet or exceed accreditation council for continuing medical education standards. *The Journal of Continuing Education in the Health Professions*, 24(1), 57-63.
- Marques, D. P., & Simon, F. J. G. (2006). The effect of knowledge management practices on firm performance. *Journal of Knowledge Management*, 10(3), 143-156.
- Marshall, A. A., & Stohl, C. (1993). Being "in the know" in a participative management system. *Management Communication*, 6(4), 372-404.
- Martin, E. W. (1997). Human service organizations revisited: Still a useful concept in the 1990s? *Australian Journal of Social Issues*, 32(1), 1-21.
- McPhee, R. D., Corman, S. R., & Dooley, K. (2002). Organizational knowledge expression and management. *Management Communication Quarterly*, 16(2), 274-281.
- Meyer, S. M., & Collier, D. A. (2001). An empirical test of the causal relationships in the Baldrige Health Care Pilot Criteria. *Journal of Operations Management*, 19(4), 403-425.
- Moen, D. M. (2007). Planning for transformation. *New Directions for Higher Education*, 140(1), 63-73.
- Noe, R. A. (2008). *Employee training & development* (4th ed.). New York: McGraw-Hill/Irwin.
- Ohldin, A., Taylor, R., Stein, A., & Garthwaite, T. (2002). Enhancing VHA's Malcolm Baldrige award application. *Quality Management in Health Care*, 10(4), 29-37.
- Przasnyski, Z. H., & Tai, L. S. (2002). Stock performance of Malcolm Baldrige National Quality Award winning companies. *Total Quality Management*, 13(4), 475-488.
- Ravishankar, M. N., & Pan, S. L. (2008). The influence of organizational identification on organizational knowledge management (KM). *The International Journal of Management Science*, 36(1), 221-234.
- Robbins, T. L., Summers, T. P., Miller, J. L., & Hendrix, W. H. (2000). Using the group-value model to explain the role of noninstrumental justice in distinguishing the effects of distributive and procedural justice. *Journal of Occupational & Organizational Psychology*, 73(4), 511-519.
- Ruben, B. D. (2007). Higher education assessment: Linking accreditation standards and the Malcolm Baldrige criteria. *New Directions for Higher Education*, 137(1), 59-83.
- Shirks, A., Weeks, W. B., & Stein, A. (2002). Baldrige-based quality awards: Veterans

- Health Administration's 3-year experience. *Quality Management in Health Care*, 10(3), 47-54.
- Shrivastava, P. (1998). Implementing Socrates knowledge management system for education and training. *Refereed Proceedings of the Third World Conference of the WWW, Internet and Intranet* (pp. 7-12). Orlando, FL.
- Tamimi, N., & Sebastianelli, R. (1996). How firms define and measure quality. *Production and Inventory Management Journal*, 37(3), 34-39.
- Yeniyurt, S., Cavusgil, S. T., & Hult, G. T. M. (2005). A global market advantage framework: The role of global market knowledge competencies. *International Business Review*, 14(1), 1-19.

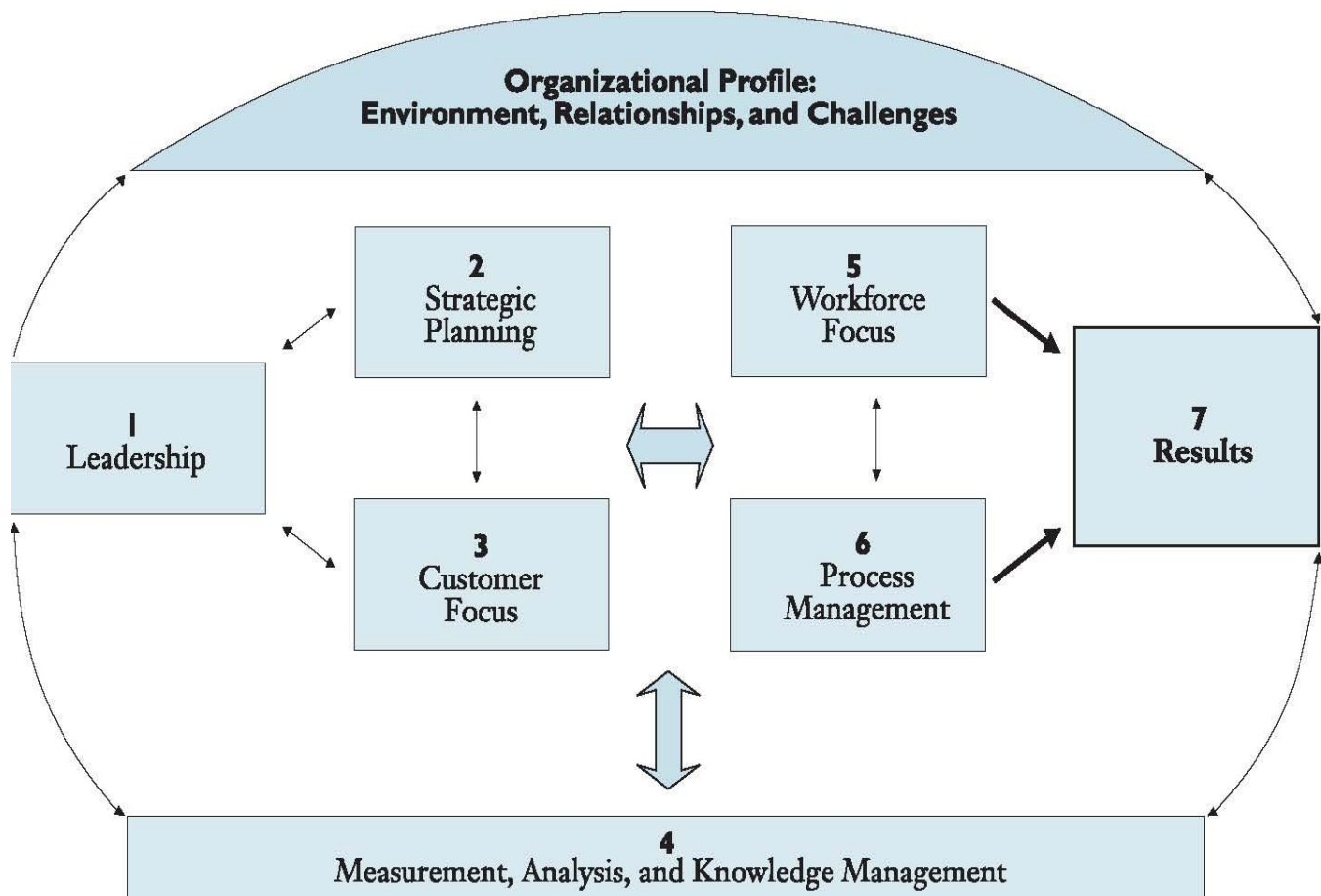


Figure 1. Baldrige Business Criteria for Performance Excellence Framework (2009, p. 4).