

ACADEMIC INSTITUTION'S PERFORMANCE BASED ON MALCOLM BALDRIGE EDUCATION CRITERIA FOR PERFORMANCE EXCELLENCE: AN ASSESSMENT

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ABSTRACT. The main objective of the study was to assess the performance of an academic institution based on the Baldrige Key Performance Indicators. The study utilized the descriptive method of research that made use of a readily validated questionnaire based on 2011 – 2012 Education Criteria for Performance Excellence. Analyses were executed on the data specifically the level of agreement of top and middle managers on institutional performance of based on the seven (7) education criteria of Malcolm Baldrige. The findings revealed that there is no significant difference between the level of agreement of academic institution's top and middle management in terms of Leadership, Strategic Planning, Student, Stakeholder and Market Focus, Information and Analysis, Faculty and Staff Focus, Process Management, and Results. It was concluded that Malcolm Baldrige Education Criteria for Performance Excellence is a representation that equips the management's systematic leadership of the assessment, planning and improvement process to be aligned in the true practice of Total Quality Management (TQM); and are designed to provide institutions with an integrated approach to institutional performance management that results in delivery of ever-improving value to students and stakeholders, contributing to education quality and sustainability; improvement of overall institutional effectiveness, capabilities and personal learning.

Keywords: education criteria, independent t-test, institutional performance, Malcolm Baldrige, performance indicators.

1. INTRODUCTION

There is a persisting notion that higher education has got into a new environment in which quality plays an increasingly important role. The best place to begin is to view what the institution is about, and what it is supposed to do. Viewed from any angle, it is all about learning. A quality system for education has to identify the features of an institution, which enshrines this characteristic in all of its programs.

Learning is an essential attribute of high-performing institutions and, therefore, a critical concept in institutional excellence. This concept of excellence places the major focus on teaching and learning strategies, poses similar types of challenges for all institutions regardless of resources and incoming student preparation and abilities, and offers the potential to create an expanding body of knowledge of successful teaching and learning practices in the widest range of the institution.

Achieving the highest levels of institutional performance requires a well-executed approach to institutional and personal learning. Institutional learning includes both continuous improvement of existing approaches and adaptation to change, leading to new goals and/or approaches. Learning needs to be embedded in the way the institution operates.

As do businesses, education institutions must respond to a variety of requirements—all of which should be incorporated into responses to the Education Criteria of Malcolm Baldrige. The adaptation of the Education Criteria includes a specific approach for defining key student requirements. This approach distinguishes between students and stakeholders for purposes of clarity and emphasis. A major challenge institutions face is “bridging” current student needs and the needs of future students. This requires an effective institutional learning and change strategy.

The Baldrige Education Criteria have evolved significantly over time to help education organizations address a dynamic environment, focus on strategy driven performance, and, most recently, address national concerns about governance and ethics. The Education Criteria have continually progressed toward an integrated systems perspective of overall institutional performance management focusing in its key processes to achieve results—and to strive for performance excellence.

2. BACKGROUND OF THE STUDY

The main elements in the practice of TQM can be highlighted by the principles they used for auditing companies. The students must be able to define quality and this is the start point, senior management team is responsible for taking the

lead in setting the institution's strategy, values and culture with regard to quality which depends upon the design and execution of services and processes to a high standard. A key part of the philosophy is that of the need for continuous improvement and the need to reach for continually higher standards. Leadership in quality can only be achieved through management setting clear goals and forming the strategic and operational plans to achieve them. Understanding the processes that drive the institution's operation and provide decisions on facts, and involve employees at all levels in quality improvement activities through appropriate education, training and communication. Key parts of quality systems include designing quality into processes and student dissatisfaction prevention and shortening of response times for all service processes is an objective of improvement efforts.

The study aims to assess the academic institution's present performance in attaining TQM practice through the use of Malcolm Baldrige Education Criteria for Performance Excellence. The study investigates about the inconsistency (variance) between top and lower management's level of agreement based on Malcolm Baldrige Education Criteria for Performance Excellence.

By using TQM methodologies, as outlined in the requirements for the Malcolm Baldrige National Quality Award, school systems can operate under budget, improve student-testing scores, build community trust, and develop quality, higher educated, critically thinking individuals. The Baldrige Education Criteria address seven major categories and several sub-categories that primarily focus on customer-driven quality and performance excellence. The contents and the format of these categories undergo revisions on a systematic basis for improving clarity and quality. It considers quality management as part of the total educational system with primary goals that include achieving student satisfaction.

3. THEORETICAL FRAMEWORK

Malcolm Baldrige Award Criteria was developed into its respective seven categories. Each of these seven categories focused on a key process to achieve performance excellence. The Malcolm Baldrige Criteria emphasize on alignment of all these key processes. The Baldrige values and Concepts are built into the criteria to attain alignment of the seven categories yet without displaying the values and concepts specifically in the criteria itself.

The Malcolm Baldrige Criteria used to be revised on a yearly basis and has changed to a once in two year's basis effective 2009 with the introduction of the Malcolm Baldrige Award Criteria 2009-2010 version. The Malcolm Baldrige Award is given to the best organization of its respective award categories. Each award Applicant has to exhibit the highest standards of Approach, Deployment of their key process in relation to the seven categories in the Malcolm Baldrige Criteria.

Many of the practitioners of TQM have successfully incorporated it into their culture, business systems and processes. It has provided a means of planning and

controlling their business and auditing its performance. Below is an example of how such an educational system might look.

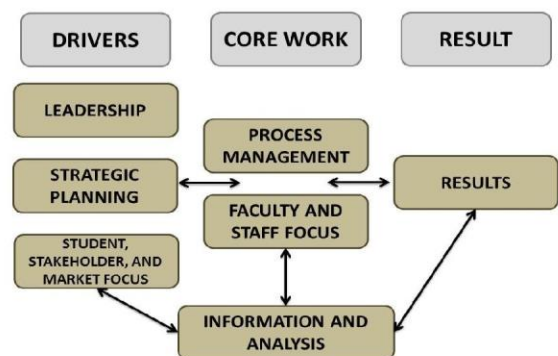


Figure 1
Baldrige Education Criteria for Performance Excellence.

Figure 1 shows a system perspective of Baldrige criteria for performance excellence. Total Quality Management (TQM) Process series focuses on preparing the organization to achieve excellence in the seven Malcolm Baldrige criteria. The seven principles that provide a systems perspective for managing the process include: Leadership, Strategic Planning, Student, Stakeholder, & Market Focus, Information & Analysis, Faculty and Staff Focus, Process Management and Results.

Three of the Baldrige Categories such as Leadership (Category 1), Strategic Planning (Category 2), and Student, Stakeholder and Market Focus (Category 3) represent as drivers. These categories are placed together to emphasize the importance of leadership focus on strategy and customers. Senior leaders set organizational direction and seek future opportunities for the organization. Core work includes Faculty and Staff Focus (Category 5), and Process Management (Category 6). The organizations' faculties, staff and key processes accomplish the work of the organization that yields overall performance Results (Category 7). All actions point toward Results—a composite of product and service, customer, market and financial, and internal operational performance results, including workforce, leadership, governance, and social responsibility results. Information and Analysis (Category 4) are critical to the effective management of the organization and to a fact-based knowledge-driven system for improving performance and competitiveness. Information and Analysis (Category 4) serves as a foundation for the performance management system.

Baldrige Performance Excellence Program

The Baldrige Performance Excellence Program, formerly known as the Malcolm Baldrige National Quality Award, was created in 1987 to enhance the competitiveness of American businesses, and was named after Malcolm Baldrige. Mr. Baldrige, the former Secretary of Commerce, was an advocate for quality management as the key to American prosperity and sustainability. The criteria for the Baldrige Performance

Excellence Program is based on TQM and Deming's 14 Principles of Management, as the criteria

Baldrige Criteria “recognizes that institutions do empirically benefit from reporting out and engaging in TQM” (Flumerfelt, & Banachowski, 2011, p. 225). The program was expanded to include educational institutions in 1999, and a specific criteria for educational institutions was created in 2009 (National Institute of Standards and Technology (NIST), n.d.). The Baldrige criteria system outlines “two cycles of three elements. The first cycle includes leadership, strategic planning and customer focus. The second cycle includes workforce focus, process management and results” (Flumerfelt, & Banachowski, 2011, p. 225). Both cycles represent input, process and output improvement opportunities for the organization (Karathanos & Karathanos, 2005). The measurement system yields results in the following categories which were updated for 2013 award: (1) customer; (2) products and processes; (3) finance and markets; (4) workforce; (5) leadership and governance (NIST, n.d.).

Baldrige Education Criteria for Performance Excellence

In 2009, the Malcolm Baldrige Award performance excellence criteria were established for educational institutions (NIST, n.d.). The Baldrige Education Criteria for Performance Excellence are focused on giving educational institutions the tools needed to examine all parts of its “management system and improve processes and results while keeping the whole organization in mind” (NIST, 2011, p. i). The criteria are non-prescriptive so institutions can focus on “results, not procedures, tools, or organizational structure” (NIST, 2011, p. i). The purpose of being non-prescriptive is so the criteria will foster “understanding, communication, sharing, alignment, and integration while supporting innovative and diverse approaches” (NIST, 2011 p. i). Harry Hertz (NIST, 2011), the director of the Baldrige Performance Excellence Program, stated the Education Criteria are increasingly used by American educational institutions to improve performance. These criteria are continually updated to help institutions respond to the “current challenges of the need to create value for students, stakeholders, and organization, the need for openness and transparency in governance and ethics, and rapid innovation” (p. i). These criteria are used to assess performance in the key areas of students, workforce, leadership and governance, and finance and markets. These areas should be balanced so the organization is holistically focusing on all stakeholders, and objectives, along with short- and longer-term goals (NIST, n.d.). The Education Criteria stress student learning while recognizing education organizations' varying missions, roles, and programs. The criteria view students as the key customers and recognize that colleges and universities may have other customers (e.g., parents). The criteria incorporate excellence in the education sector and include “three components: a well-conceived and well-executed assessment strategy; year-to-year improvement in key measures and indicators of performance, especially student learning; and demonstrated leadership in performance and performance improvement

relative to comparable organizations and appropriate benchmarks” (NIST, n.d., p. 2). The Education Criteria (NIST, 2011) support an institution's strategic planning in four cycles: approach, deployment, learning, and integration. Educational institutions look how they approach designing and selecting processes, methods, and measures. After processes, methods, and measures are designed and selected, the criteria examines how these processes, methods, and measures are communicated and deployed consistently across the institution. Next, the institution examines its progress and what new knowledge has been learned. Along with learning, institutions are asked to examine opportunities for innovation. The last cycle is for the institution to assess findings and organizational performance, harmonize processes and work-unit operations, and select better process and results measures (p. 68). This type of assessment process creates a profile of strengths and opportunities for improvement in areas across the institution.

Many researchers (Beard, 2009; Eggleston, Gibbons & Vera; Seymour 1995) have analyzed the improvements within educational institutions such as Northwest Missouri State, Richland College, and University of Wisconsin-Stout, that utilized the Education Criteria for Performance Excellence. They found the Education Criteria as a useful tool for colleges committed to continuous improvement in all areas of the organization and improving results. The Baldrige self-study was also useful for end of the year reporting to governing agencies such as board of trustees, the federal government, and grant foundations. In addition, the Baldrige self-study can serve as a common ground for internal discussions of where and how to best direct efforts for improvement, and aligns itself well with the mission of higher education institutions and the goals of accreditation efforts for higher education (HLC, 2007b).

Key Performance Indicators (KPI) in Higher Education

According to Parmenter (2010) “key performance indicators (KPI) represent a set of measures focusing on those aspects of organizational performance that are the most critical for the current and future success of the organization” (p. 4). KPI are a set of measures that should be measured frequently and tie directly to the success of an organization. KPI need to be tracked on a regular basis, and if they are not meeting the target then processes or systems need to be modified (Arif & Smiley, 2004). Lyddon and McComb (2008) state every KPI measure should include several components: “(1) the actual results of the indicator;

(2) the target for which the indicator is striving; (3) the difference between actual results and target results; and (4) signal values, or benchmarks” (p. 139). For educational institutions, determining their KPI should include all stakeholders of the organization (Arif & Smiley, 2004), and should have had a direct effect on the core budget (Conlon, 2004). According to Burke and Minassians (2002b) using KPI are important because “how well college and universities meet the needs of students, states, and society” (p. 116) is the true test of accountability.

According to Manning (2011), associate vice president of institutional research at Central Piedmont Community College, the identification of measurements across all units is essential to improving programs and student success. This would start with an institution asking itself the questions: “If we improve the institutional quality what should we observe? And if we are to improve student learning and success what should be observe?” (p. 16). He suggests indicators that would answer these questions would see increases in term enrollment (persistence), year to year enrollment (retention), graduation rates, transfer rates (if a community college), successful course completion, and number of credit hours completed. Having measures that matter, focuses energy and attention on student learning and institutional improvement. Determining which indicators are key within higher education institutions is the focus of my research. In the literature, there are some recommendations of some general indicators that could be used to measure the outcomes of student’s higher education experience. These general indicators are based on varying perspectives.

KPI from Baldrige Perspective

In Baldrige Theory into Practice: A Working Model, Arif and Smiley (2004) describe possible KPI related to each strategic area for educational institutions such career services, and informational technology. For the area of strategic planning and growth of an institution, the KPI should focus on: “student enrollment, ranking by independent agencies, number of patents, graduation rate, research dollars attracted, publications by faculty, and satisfaction of the stakeholders” (Arif & Smiley, 2004, p. 325).

In reviewing how an institution functions financially, certain KPI could be “revenue generated, expenses, research grant amount, budget deficit/surplus, endowments, federal financial aid obtained, etc” (Arif & Smiley 2004, p. 326). For career planning the KPIs could be: “percentage of students getting internships, number of companies coming to campus for recruitment, number as well as percentage of students obtaining full time employment on graduation, average salaries by each major, number of faculty industry interactions, etc” (pp. 326-327). For information services, KPIs could be: “percentage of students with computer access, percentage area of university covered by wireless internet access, number of hits on different websites, turnaround time for hardware and application complaints, dollars saved by in-house development of applications, etc” (p. 327). For collaborative partnerships with organizations outside the institutions and other distinctive objects KPIs could be: “number of patents, number of companies consulted, number of students employed in companies, revenue generated for the university, number of faculty participating, number of publications coming out of the faculty-industry partnerships, etc” (p. 328). Arif and Smiley (2004) caution that after KPI are identified for an institution, targets for the KPI are also identified. An example of a target is enrollment of high school students should be 5,000 by the 2014.

Some college and universities have developed KPI such as Ohio State University, whose KPI are focused on “diversity, student learning, academic excellence, outreach and engagement, and resource management” (Ballentine & Eckles, 2009, p. 29). At Rhodes College, the KPI are viewed in four lenses. The first is the financial perspective which includes operating income ratio, resources per student, and resources per faculty, debt burden ratio, viability ratio, and service expenses. The next is constituent perspective which includes student evaluation of overall educational experience, student evaluation of foundational educational experience, recruiting, and average percentage of needs met. The third is the internal process perspective which includes average graduate school placement rates, first to second year retention rate, and the six-year graduation rate. The final lens is the human and organizational development perspective where the only metric is number of internships filled (Ballentine & Eckles, 2009, p. 33).

4. RESEARCH METHODOLOGY

The research design is all about assessing the Quality Management System implemented of the academic institutions by applying the Multi-Attribute Criteria of Malcolm Baldrige’s Key Excellence Indicators. This study is a descriptive research that made use of a readily validated questionnaire in order to measure the institution performance based on Malcolm Baldrige Education Criteria for Performance Excellence as assessed by top and middle managers of the institution. A Descriptive study is an inquiry into the nature of an unknown phenomenon or the occurrence of an event. It does not explain relationship but seeks knowledge for better understanding of the nature of the subject to serve as basis for some future actions including formulation of hypothesis of relationship.

The study involves assessing the difference between the top and the middle management’s level of agreement in the current institutional performance of the academic institution based on Malcolm Baldrige Education Criteria for Performance Excellence using the validated questionnaire based on 2011 Education Criteria for Performance Excellence by Baldrige National Quality Program Designed for Business Organizations to assess the institutional performance of the academic institution.

Population, Sample Size and Sampling Techniques

Simple random sampling was used through “fish bowl” procedure where names of top managers, deans, department chairs and faculty members with special functions are written on slips of paper. These names are drawn from container until the desired number of respondents comprising the sample is selected. The researcher used a small proportion of the population from the academic institution. Slovene’s formula was used to determine n which is 54, where $N = 63$. The respondents can be of any level on the created organizational chart, which can be classified as officers with highly significant functions.

Research Instrument

The study used the Baldrige's Key Performance Indicators based on 2011 Education Criteria for Performance Excellence by Baldrige National Quality Program designed for business organizations which consist of seven (7) Categories namely: Leadership, Strategic Planning, Student, Stakeholder, and Market Focus, Measurements, Analysis, and Knowledge Management, Faculty and Staff Focus, Process Management and Results.

5. RESULTS AND DISCUSSION

Among the demographic characteristic of the respondents in terms of person-related variables referring to age is that 11% of the middle managers are between the ages of 26 – 30, 16% of middle managers are between 31 – 35 years old, 16% of middle managers and 22% of top managers are between 36 – 40 years old, while 16% of middle managers are 41 – 45 years old, 42% of middle managers and 78% of top managers are 46 years old and above, this shows that majority of the middle and top managers' respondents are between the ages 46 years old and above. In terms of civil status, 80% of the middle managers are married, while 20% are single. It also indicates that 11% of top managers are single and 89% are married. Among the demographic characteristics of the respondents in terms of professional-related variables referring to their rank as managers, 83% of the respondents are middle managers and 17% are top managers. In terms of length of service, 2% of the middle managers are between 16 – 20 years of service in the institution; 4% of middle managers and 22% of top managers are between 21 – 25 years of service; 36% of middle managers and 33% of top managers are between 6 – 10 years of service; and 27% of middle managers and 11% of top managers had been serving the academic institution between 11 – 15 years. In terms of highest educational attainment, 40% of the middle managers and 22% of the top managers has finished their bachelor's degree; 47% of middle managers and 44% of top managers had a highest educational attainment of master's degree and 13% of the middle managers and 33% of top managers had their doctorate degrees.

1. The current institutional performance of the academic institution based on Malcolm Baldrige seven (7) Education Criteria for Performance Excellence are as follows:

a) Both the top and middle managers strongly agree in terms of leadership, with how the institution leaders guide and sustain the organization, governance system, and how the institution addresses its ethical, legal, and community responsibilities.

- b) Top and middle managers strongly agree in terms of strategic planning with how the institution examines and develops strategic planning and action plans, with how the chosen strategic objectives and action plans are deployed and changed if circumstances require, and how the institution's progress is measured.
 - c) The respondents both strongly agree in Student, Stakeholder, and Market focus category, with how the institution determines the requirements, needs, expectations, and preferences of students, stakeholder, and markets. With how the institution builds relationships with students and stakeholders and determines the key factors that attract students and lead to student and stakeholder satisfaction and loyalty, student persistence, increased educational services and programs, and institutional sustainability.
 - d) In terms of Information and Analysis Category, both top and middle managers strongly agree with how the institution selects, gathers, analyses, manages, and improves its data, information, and knowledge asset, and how it manages its information technology, and reviews and uses reviews to improve its performance.
 - e) Top and middle managers both agree in terms of Faculty and Staff focus category. They both gave a verbal interpretation of "very satisfactory" with how institution engages, manages, and develops workforce to utilize its full potential in alignment with the institution's overall mission, strategy, and action plans, and examines the ability to assess workforce capability and capacity needs and to build a workforce environment conducive to high performance.
 - f) In terms of Process Management, both the top and middle managers strongly agree with how the institution determines its core competencies and work systems and how it designs, manages, and improves its key processes for implementing those work systems to deliver student and stakeholder value and achieve institutional success and sustainability.
 - g) Top managers and middle managers both strongly agree in the result category of Malcolm Baldrige, with how the institution examines its performance and improvement in all key areas – student learning outcomes; student and stakeholder focused outcomes, budgetary, financial, and market outcomes; workforce focused outcomes; process effectiveness outcomes; and leadership outcomes.
2. There is no significant difference between the level of agreement of top management and middle management on institutional performance of the academic institution based on Malcolm Baldrige Education Criteria for Performance Excellence.

6. CONCLUSION

The Malcolm Baldrige Education Criteria for Performance Excellence is indeed a powerful tool for reviewing the Institutional performance of an institution. It allows the academic institution to review the excellence in Higher Education if it provides a robust tool for systematically reflecting on and improving the reality and excellence for faculty, staff, students, and for the many other important constituency and stakeholder groups whose views of our colleges and universities are of increasing significance to the future of higher education. Perhaps most importantly, it is a representation that equips the Top and Middle management's systematic leadership of the assessment, planning and improvement process to be aligned in the true practice of Total Quality Management (TQM).

The Education Criteria consider several important education concepts and the specific needs of the institution. These include the following; the Education Criteria place a primary focus on teaching and learning because these are the principal goals of education organizations and/or institutions, students are the key customers of education institutions, but there may be multiple stakeholders (e.g., parents, employers, other schools, and communities), and the concept of excellence includes two components: (1) a well-conceived and well-executed assessment strategy; and (2) year-to-year improvement in key measures and indicators of performance, especially student learning.

The Education Criteria are designed to help provide institutions with an integrated approach to institutional performance management that may result in delivery of ever-improving value to students and stakeholders, contributing to education quality and institutional sustainability; improvement of overall institutional effectiveness and capabilities; and institutional and personal learning.

Although satisfaction with pay and satisfaction with promotion are important, these two factors generally are not sufficient to ensure workforce engagement and high performance. Some examples of other factors that the academic institutions consider are effective problem and grievance resolution; development and career opportunities; the work environment and management support; workplace safety and security; the workload; effective communication, cooperation, and teamwork; job security; appreciation of the dissenting needs of various workforce groups; and institutional support for serving students and stakeholders. The motivation for researching alternative designs for TQM was based on the observation that TQM is difficult to manage. After some years of observing how top-down management often seems to fail in certain circumstances, it is still a question whether it would be possible to design a management system that would "manage itself". Further research is recommended in this area.

RECOMMENDATIONS

It is recommended to focus on the determination of the key factors that affect workforce engagement and satisfaction. Another suggestion is through performance management system that may be adapted in order to increase workforce involvement and gratification. The performance management system may involve the following:

- a. Employees have a clear understanding of the quality and quantity of work expected from them;
- b. Employees receive ongoing information about how effectively they are performing relative to expectations;
- c. Awards and salary increases based on employee performance are distributed accordingly;
- d. Opportunities for employee development are identified; and
- e. Employee performance that does not meet expectations is addressed.

Since the Faculty and Staff focus category got the lowest average weighted mean, factors inhibiting workforce engagement should be understood and addressed by the institution. Understanding of these factors could be developed through workforce surveys, focus groups, blogs, or exit interviews with departing members of the institution. From the institution's own experience and available evidence it would seem the excellence in Higher Education program can be most helpful in attaining a variety of institutional assessment, planning and improvement goals, including the items presented below, it is highly recommended to review the given variables to ensure the implementation of Total Quality Management in the institution.

- a. Team-building;
- b. Increasing and enhancing communication;
- c. Professional development;
- d. Promoting comparisons and benchmarking;
- e. Identifying improvement needs;
- f. Providing a model of institutional excellence; and
- g. Performance Measurement.

In a rapidly changing technological, competitive, economic, and social environment, many factors may affect student and stakeholder expectations and loyalty, and the academic institution's interface with students and stakeholders. This makes it necessary to continually listen and learn. To be more effective, listening and learning need to be closely linked with the institution's overall educational strategy.

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