

Analysis of Nursing Education Excellence in Indonesia Using Baldrige Criteria

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Submission date: 27-Jun-2020 02:06PM (UTC+0700)

Submission ID: 1350357860

File name: 8-analysis-2.pdf (566.74K)

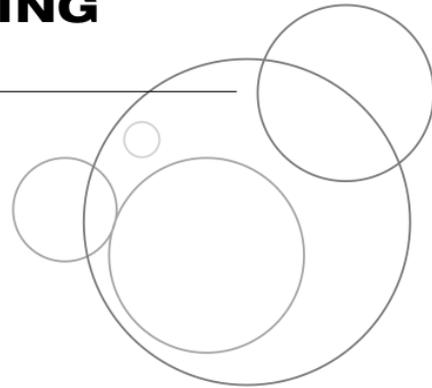
Word count: 3918

Character count: 23018

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1 Analysis of Nursing Education Excellence in Indonesia Using Baldrige Criteria

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This research aimed to analyze nursing education excellence in 54 nursing schools in East Java, Indonesia, using Baldrige Criteria for Performance Excellence (BCFPE) to evaluate competitive advantage on an international level. Data were collected through interviews; questionnaires; and documentation from heads of departments, lecturers, and students. Data obtained using the Baldrige modified questionnaire were analyzed with descriptive statistics and then classified using the BCFPE score. Results showed that these schools of nursing were still in the early growth stages in all areas measured. Their overall achievement scores were below 50%. The schools of nursing could achieve world-class performance and competitive advantage in nursing education, emerging as industry leaders, by improving leadership; customer focus; strategic planning; measurement, analysis, and knowledge management; human resources focus; and learning process.

Keywords: Baldrige Criteria for Performance Excellence; Indonesia; competitive advantage; nursing schools

THE BALDRIGE CRITERIA

The Baldrige Criteria for Performance Excellence (BCFPE) is a quality management system that aims to improve organizational performance, ease communication in organizational practices, and enhance organizational performance on the world level. The Malcolm Baldrige Management System was created by the U.S. Congress under Public Law 100-107, the Quality Improvement Act of 1987. It was named in honor of Malcolm Baldrige, U.S. Secretary of Commerce, who was a proponent of quality management and helped draft an early versions of the law before his death in 1987 (Gaspersz, 2007; Gaspersz & Fontana, 2011). The Baldrige Criteria evaluation process has been used by various organizations for measuring performance and increasing quality by benchmarking quality improvement practices and stimulating or accelerating quality improvement. Performance improvement is based on integrated quality management models, quality improvement for organizational performance excellence, and understanding high-performing clinical microsystems (DeJong, 2009; Foster, Johnson, Nelson, & Batalden, 2007; Minkman, Ahaus, & Huijsman, 2007). In the United States, the annual Malcolm



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Baldrige Award recognizes excellence in three business categories: manufacturing, services, and small businesses. The program can help improve health-care quality, meeting or exceeding accreditation standards for continuing medical education (Leist, Gilman, Cullen, & Sklar, 2004). The program has been used for total quality management in many venues, including community mental health centers (Jennings & Westfall, 1994; McFarland, Harmann, Lhotak, & Wieselthier, 1996).

USING BALDRIGE CRITERIA IN INDONESIA

The Baldrige Criteria evaluation process has been used by various organizations for measuring performance and increasing quality by benchmarking quality improvement practices and stimulating or accelerating quality improvement.

Indonesia has 655 schools of nursing in 33 provinces offering undergraduate-level education. The province of East Java has more schools of nursing than the other provinces, but no one has demonstrated their competitive advantage on the international level. Competitive advantage in nursing education is one of the quality indicators on the international level.

The Baldrige Criteria are applicable in the United States, but can be easily adapted by small and large organizations in other countries, including Indonesia and other developing countries (Hertz, 2005, 2010). In Indonesia, state-owned enterprises such as telecommunication and electrical companies, national banks, and companies owned by individual citizens have all used Baldrige Criteria to help them become competitive at the international level (Gaspersz, 2007; Gaspersz & Fontana, 2011).

The BCFPE has specific criteria for performance excellence in education, but they have not been used before in higher education organizations in Indonesia. The authors used the Baldrige Criteria to evaluate nursing programs in Indonesia because they measure quality and performance in an integrated manner, measuring processes with approach, deployment, learning, and integration (ADLI) indicators, and outcomes with level, trend, comparison, and integration (LeTCI) indicators (Gaspersz, 2007; Gaspersz & Fontana, 2011). The purpose of this study was to analyze nursing education excellence in East Java, Indonesia, based on the BCFPE, to determine competitive advantage at the international level.

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MATERIALS AND METHODS

Sample and Data Collection Procedure

The research was conducted from January 1 to October 31, 2016, in 54 nursing schools in East Java, Indonesia, that had graduated students for the last 3 years. Data collection involved giving questionnaires to all participants, directly interviewing some respondents (heads of departments, lecturers, and students), and researching documents. The questionnaire was a modified version of the Malcolm Baldrige questionnaire (Abdulla Badri et al., 2006; Ruben, 2007), with 370 questions on a Likert scale with possible responses "never," "seldom," "sometimes," "often," and "always." The questions were about senior leadership, social responsibility, strategic development and implementation, customer focus, and learning processes. Each question reflected ADLI elements. The components assessed are presented in Table 1.

TABLE 1. Components Assessed With the Malcolm Baldrige Questionnaire

Criteria	Components
Leadership	<p>Senior leaders act in accordance with organizational goals and can sustain the organization</p> <p>Governance system</p> <p>Organization accepts legal and social responsibility</p>
Strategic planning	<p>Organization uses the needs of stakeholders as input into</p> <ul style="list-style-type: none"> • Direction of organizational strategic objectives • Establishing key business processes • Identifying weaknesses to be corrected (SWOT analysis) • Setting targets • Measuring performance • Analyzing capabilities in implementing strategic plans • Guaranteeing that performance improvement programs are carried out in an integrated manner <p>Organization translates strategic targets into work plans, further elaborated in measures or indicators of work projections; in the ability to disseminate action plans to all units, define performance measures to track progress of implementation of action plans, and ensure that action plans are integrated into the entire organization; and in efforts to monitor and review performance periodically by comparing with past performance or competitors</p>
Customer focus	<p>Organization uses data from students and other stakeholders (e.g., satisfaction, attachment/loyalty) to understand their expectations and preferences; data are used in learning, planning, improvement processes, and organizational development</p> <p>Organization builds ties and relationships by using customer contacts as feedback on handling complaints responsibly, and communicating complaint data to relevant parties to find causes; systematically determines customer satisfaction</p>

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(Continued)

**TABLE 1. Components Assessed With the Malcolm Baldrige Questionnaire
(Continued)**

Criteria	Components
Measurement, analysis, and knowledge management	<p>Organization measures, analyzes, and improves performance, including selecting, collecting, harmonizing, and integrating key performance indicators; reviewing and improving performance through priority setting; and disseminating improvements to work partners/stakeholders</p> <p>Organization manages information and knowledge using information technology for ease of access; availability of hardware or software; storage of data and information; guarantee of accuracy, integrity and reliability; timeliness; security; confidentiality of organizational data; and management of organizational knowledge</p>
Human resource focus	<p>Organization builds an effective workforce, including managing capacity and capability, and maintains a work environment that attends to and supports occupational health and safety</p> <p>Organization binds (actively involves), compensates, and rewards workers for achieving high performance contributing to organizational success; develops employees and leaders with education and training; and uses assessment of involvement to achieve high performance</p>
Learning process focus	<p>Organization designs work systems by determining the major processes that will deliver value to customers and by establishing core competencies that link vision, mission, and values, guaranteeing that systems will remain in place in an emergency</p> <p>Organization designs, implements, manages, and improves work processes to provide value to customers, achieving organizational success and sustainability</p>
Results	<ul style="list-style-type: none"> • Level • Trend • Comparisons • Integration

Ethical Considerations

The Muhammadiyah University Institutional Review Board approved ⁶ this study. The data were collected after obtaining consent from the respondents; all data remained confidential.

Validity and Reliability

⁶ Reliability of the Baldrige instrument was tested by Cronbach's alpha; validity was tested by Construct Validity (Gunawan & Sigit, 2013). Reliability scores are listed in Table 2.

Data Analysis

The researchers conducted a descriptive analysis by calculating the achievement percentage for each of the Baldrige Criteria, to identify the strengths and weaknesses in quality of the various components of nursing education, as a first step in improving that quality (Hidayat, Surpyanto, & Nursalam, 2015). The total score was divided by the Baldrige maximum score, then multiplied by 100%. The potential total Baldrige score was 1000, comprising a leadership score of 120; strategic planning score of 85; customer focus score of 85; measurement, analysis, and knowledge management score of 90; human resource focus score of 85; learning process score of 85; and results score of 450. Each criterion was weighted, with leadership at 12%; strategic planning at 8.5%; customer focus at 8.5%; measurement, analysis and knowledge management at 9%; human resource focus at 8.5%; learning process at 8.5%; and results at 45% (Gaspersz, 2007; Gaspersz & Fontana, 2011).

Linear regression analysis ($p < .05$) was used to analyze the data according to the predictive influence of the variables (leadership; strategic planning; customer focus; measurement, analysis, and knowledge management; human resource focus; and learning process focus) for nursing education excellence (see Table 5).

RESULTS

Demographics

The demographic characteristics of the sample are shown in ⁶ Table 3.

TABLE 2. Reliability Scores for Baldrige Questionnaire

Variable	Cronbach's Alpha
⁴ Leadership	.95
Strategic planning	.91
Customer focus	.97
Measurement, analysis, and knowledge management	.98
Human Resource Focus	.93
Learning Process	.98

Leaders must model the value of ethics in managing educational organizations, especially in the areas of social responsibility and community support.

Strategic planning is important in assessing how to develop and grow the organization to achieve its purpose in a way that can be understood by all stakeholders.

TABLE 3. Demographic Characteristics of Sample

School of Nursing Characteristic	Mean	SD
Length of establishment (years)	15	6.82
Number of students	250	217.52
Number of lecturers	12	6.28
Age of respondents (years)	38.9	4.91
Length of work (years)	12.9	6.13
	<i>n</i>	%
Result of accreditation from Indonesian Accreditation Agency for Higher Educational in Health		
• Very good	0	0
• Good		
• Adequate	45	83.3
	9	16.7

Note. SE = standard deviation.

Table 4 shows the scores for the analysis of nursing education excellence to be in the low (40%–59 %) and very low (< 40 %) ranges according to the Baldrige Criteria standards.

The analysis of nursing education excellence based on the BCFPE yielded two findings.

1. Performance of nursing education in East Java was at the BCFPE level of *early improvement* (mean score = 474.68)
2. The lowest achievement scores were in leadership; customer focus; strategic planning; measurement, analysis, and knowledge management; human resources; and learning process, with average scores < 50% at a *p*-value of < .05 (Table 5).

DISCUSSION

Leadership

The leadership in the schools of nursing lacked success in building involvement and dissemination. The Baldrige Criteria concept of leadership is as a driver that needs direct involvement and commitment in conducting the management process (Vora, 2002). As well, leaders must model the value of ethics in managing educational organizations, especially in the areas of social responsibility, public responsibility, and community support (Abdulla Badri et al., 2006). Leaders with a high sense of social responsibility can minimize negative social effects and enhance positive social effects in their operations (Du Preez & Van Zyl, 2015).

TABLE 4. Analysis of Nursing Education Excellence uUsing Baldrige Criteria for Schools of Nursing in East Java, Indonesia

Variables	Mean Score	SD	Mean Achievement Percentage (%)
3 Leadership	55.76	7.98	46.47
Senior leadership	32.94	6.05	47.05
Governance and social responsibilities	22.82	2.76	45.63
Strategic planning	37.63	6.63	44.18
Strategic development	17.10	2.92	42.75
Strategic implementation	20.53	4.37	45.63
Customer focus	37.55	5.69	44.10
Voice of customers	17.05	3.01	42.67
Customer engagement	20.50	4.62	45.55
Measurement, analysis, and knowledge management	33.35	6.36	37.06
Measurement, analysis, improvement of organizational performance	15.97	5.47	35.48
Information management, knowledge and information technology	17.38	1.23	38.63
Human resource focus	35.68	7.66	41.96
Workforce environment	16.75	2.92	41.87
Workforce engagement	18.94	5.36	42.08
Learning process focus	35.72	7.98	42.10
Work system	18.40	6.16	40.89
Work process	17.32	2.67	43.30
Results	238.98	25.69	52.26
Results of process and students learning	78.67	10.22	65.56
Results of customers focus	33.38	3.78	37.08
Results of human resource	29.48	5.35	36.85
Results of leadership and governance	40.53	7.72	50.66
Results of budgeting, finance and market	56.92	8.43	71.15
Total	474.67		

Note. SE = standard deviation.

TABLE 5. Linear Regression Analysis of Predictors of Nursing Education Excellence

Variable	B	SE	t	p-value
Leadership	1.373	0.223	6.172	.000
Strategic planning	2.579	0.594	4.345	.000
Customer focus	1.171	0.335	3.495	.001
Measurement, analysis, and knowledge management	2.606	0.381	6.846	.000
Human resource focus	1.648	0.251	6.576	.000
Learning process focus	1.267	0.502	2.523	.015

Notes. SE = standard error.
N = 54. Statistically significant at p value < .05. B = regression coefficient.

Strategic Planning

Low scores for strategic planning indicated that the nursing schools lacked strength in developing strategic objectives, sharing the evaluation of strategic planning implementation, using and disseminating key performance indicators, and communicating projected work in all units. In the Baldrige Criteria, lack of strategic development and implementation are related to a lack of strategic planning (Duarte, Goodson, & Arnold, 2013). Strategic planning is a very important dimension in assessing how to develop and grow the organization to achieve its purpose in a way that can be understood by all stakeholders (Abdulla Badri et al., 2006).

Customer Focus

The very low customer focus scores indicated that performance was still oriented toward long-established processes and procedures. The results of satisfaction surveys and tracer studies were not used or disseminated to all units in the schools of nursing, and the media was not used to build customer relationships. According to the Baldrige Criteria, lack of organizational ability in building a bond between students and stakeholders detracts from a focus on customers. Students are not educational products, but rather are customers who need satisfaction and a sense of ease and comfort in their education (Mark, 2013).

Measurement, Analysis, and Knowledge Management

Performance scores for measurement, analysis, and knowledge management were very low, implying a need for more effort in these areas to improve the performance of the organization and sustain a competitive advantage (Chawla & Joshi, 2011). Knowledge can boost competitiveness, but management of the right kind of knowledge can help the organization achieve superiority among competitors (Theriu, Maditinos, & Theriou, 2011).

Human Resources

Performance scores for human resources were very low, suggesting failings in systems of recruitment, transfer, training, health insurance, safety, incentives, career

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development, awards, and staff involvement within all work units. The development of effective human resource management builds organizational culture. Managing human resources requires major investment and plays an important role in organizational performance (Fox, 2013). It involves attention to work satisfaction, comfort in the work environment, reward systems, job training, educational opportunities, adequate pay, good teamwork, information technology, and career development, as well as supporting and caring for employees on a personal level (Lin, Lin, Jiang, & Lee, 2007).

Learning Process

The low scores for learning process reflected deficiencies in managing the education process as it pertains to the organization's main goals, work functions, health insurance, work safety, labor system requirements, and control of labor costs in all units. Effective processes need creative educational strategies to solve problems and meet challenges (Ku, Kao Lo, Wang, Lee Hsieh, & Chen, 2002); they help students develop critical thinking ability, and thus help the organizations achieve the results they pursue (Chang, 2012).

Implications for Future Research

The components of the Malcolm Baldrige model and criteria used by industries and companies can be adapted to the evaluation and management of quality nursing education. Of particular value in this study, and applicable for future research, are the ADLI criteria to measure processes, and the LeTCI criteria to measure performance outcomes.

CONCLUSION

The value of the new findings of this research is in determining the potential competitive advantage for nursing education programs of improving the customer-focused aspects of their leadership, improving their strategic planning, using knowledge management, increasing their focus on human resources, and enhancing learning processes. Of these factors, the most important aspects appear to be human ones, emphasizing customers and measurement, with analysis and knowledge management less influential. The Baldrige Criteria can be an important tool for elevating the quality and performance of nursing education in Indonesia.

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Acknowledgments. We gratefully acknowledge Muhammadiyah University of Surabaya for supporting this research by provide the facilities.

AQ5 **5** **Disclosure.** The authors have no relevant financial interest or affiliations with any commercial interests related to the subjects discussed within this article.

Funding. This research was supported by Muhammadiyah University of Surabaya Grants in 2016.

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