

# The Effectiveness of Applying the Baldrige Quality Standards in Higher Education to Achieve Competitive Advantage: Case Study on Jordanian Private Universities

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## Abstract

The aim of this study is to know the effect of applying the Baldrige quality standards in Jordanian private universities, to ensure that there is independence between them and to determine whether there is a statistically significant relation between the quality and competitive advantage strategies in the study community. The study population consists of (N = 685) staff members distributed in (6) private universities. A stratified-proportional-random sample (n = 220) represented by employees in universities departments, by representing (32%) of total population was selected in order to complete the research questionnaire, and 160 questionnaire representing (73%) of the study sample were retrieved. Data were analyzed using descriptive statistical techniques (frequencies, mean, and standard deviation) and inferential statistics (Correlation) and T test.

In addition to, the finding of this study indicate following:

1. There is an application by the Jordanian universities for the following quality standards for the following quality: the commitment of the senior management to the quality, the availability and analysis of the information, and the efficiency of the workforce, while both strategic planning and customer satisfaction were not applied.
2. There is reliability between strategic planning, customer satisfaction, workforce efficiency and competitive advantage strategies.
3. There is statistically significant relationship between the commitment of senior management to quality, strategic planning, and efficiency of the workforce with competitive advantage strategies.
4. There is significant effect on each of the Baldrige standards of independent quality, which includes the commitment of senior management to quality, customer satisfaction, information availability and data analysis on competitive advantage.

**Keywords:** Baldrige quality standards, Higher education, Competitive advantage, Jordanian Private Universities, Top management

## 1. Introduction

University education in many countries of the world is undergoing a period of transformation imposed by contemporary changes, and has witnessed remarkable growth and great demand by students in many academic disciplines. This quantitative growth has accompanied the graduation of large numbers of students with different qualifications and disciplines. In the past two decades, as we entered the third millennium, there have been rapid and very large changes and changes in various fields and fields in most societies due to the high level of education and culture of the individual and society. In addition, there have been dramatic political, economic and social changes and changes at the international and regional levels. All those interested in higher education issues agree that a clear mechanism must be found for the process of reforming higher education institutions.

Based on the above, the concept of quality is one of the important secretions for the development of administrative thought and a natural result of the changes associated with this era. It has been represented in the phenomenon of globalization and the dominance of competition and the emergence of economic blocs and the control of information technology in various areas of life. In order to achieve excellence and to respond to the

client's expectations and expectations as a central focus of the organization's thinking, the organization focuses on creating an integrated mechanism to reach the highest international standards of excellence in order to meet customer expectations.

Many international and local attempts have been made to improve the overall quality of educational institutions through the holding of conferences and symposia, and the formation of high commissions to develop and define specific indicators and standards for measuring quality in these institutions. There is no single indicator that can fully and comprehensively describe the educational system. Complex and interrelated with its components, dimensions, inputs and processes. There are many quantitative and qualitative indicators whose success requires attention to many of the most important criteria, which are the organizational structure of the system of education, student, teacher, curriculum and means educational methods as well as the surrounding environment related to the educational system.

The universities and scientific and educational institutions in Jordan seek to raise the level of education to distinct levels of performance and quality to graduate qualified and necessary personnel to develop and increase their competitiveness, especially in light of the fierce competition resulting from the increasing trend towards globalization and liberalization of the economy. Due to the importance of quality, international awards were given to organizations that apply the concepts of total quality. These awards include the European Foundation for Quality Management, the Deming Quality Award and the Malcolm Baldrige National Quality Award. These awards are an input for the organizations to achieve their objectives and to ensure their continuation and survival in the market.

### *1.1 Objectives of This Study*

The study aims to:

1. To know the extent to which the standards of quality in higher education are applied to achieve competitive advantage.
2. Ensuring that there is reliability between the quality standards and competitive advantage strategies.
3. Ensuring that there is a statistically significant relationship between quality and competitive advantage strategies.
4. Ensure that there is a significant effect on the competitive advantage strategies.

### *1.2 Significance of the Study*

The importance of the study is that it focuses on the means and mechanisms that contribute to raising the quality of education in the Jordanian private higher education institutions, in light of the increasing number of private universities, which makes the focus on the quality of education and not on the quantity and the extent of applying as the standards of quality Education.

The importance of the study stems from the fact that it focuses on how to find ways to improve the level of education in the Jordanian private universities to achieve competitive advantage through the implementation of quality standards, which is one of the most important scientific institutions responsible for achieving comprehensive development. The implementation of Baldrige quality standards in achieving the competitive advantage in the Jordanian private universities as it is one of the modern standards and methods that have succeeded in improving the performance level in many public and private business organizations in developed and developing countries.

The Baldrige Quality Award is one of the most prestigious international awards applied in industrial, production and service organizations. The Baldrige standards have been used by British companies as a framework for measuring and evaluating their efforts to implement and achieve TQM objectives. Finally, the award was developed to cover both the health and education sectors. The Baldrige quality model was adopted in this study to be applied in Jordanian educational institutions because it is the most comprehensive component of TQM and the only model adopted in the education sector by the Malcolm Baldrige National Program Office. The importance of this study is highlighted in the fact that it is one of the few studies at the local and international level that deals with the role of Baldrige standards and its relationship with competitive advantage strategies (competition in cost leadership, competition in excellence, and competition in responding to customer needs). As a competitive weapon in addition to its importance in achieving competitive advantage strategies in Jordanian private universities.

### *1.3 Research Problem*

With increasing demand for higher education in Jordan, successive governments have responded by increasing the

establishment of public universities and the establishment of private universities. Quantitative expansion in education requires action to maintain high and outstanding performance. This has led to an increase in the burden on universities in maintaining high standards of excellence and facing competition in the university education sector, which requires universities to search for strategies and systems that can be applied in all departments to ensure quality in learning outcomes at higher education.

Therefore, a number of scientific procedures and principles have been adopted, such as the adoption of the total quality elements found in the 2004 Baldrige model, which includes the following elements: the commitment of senior management to quality, strategic planning and customer satisfaction (students, the availability of information and analysis of data and the efficiency of the labor force.

Therefore, this study is an attempt to understand and understand the extent to which a competitive advantage has been achieved by adopting elements of the quality of higher education in Jordanian private universities.

The study included the answer to the following questions, which in its entirety constitute the basis for the requirements of achieving competitive advantage by adopting the concepts of Total Quality Management (Baldrige):

1. Is there an application of the standards Baldrige quality in the Jordanian private universities?
2. Are there reliability between standards Baldrige quality strategies and competitive advantage in the Jordanian private universities?
3. Is there a statistically significant relationship between the Baldrige quality standards and the competitive advantage strategies in Jordanian private universities?
4. Is there a significant effect on the competitive advantage of Jordan's private universities?

The answer to these questions will contribute to a deep understanding of the effectiveness of applying the Baldrige standards for quality in raising the level of higher education, and thus to identify the nature of solving the dilemma of competitiveness in private Jordanian universities.

## **2. Literature Review**

Many researchers have tried to adopt the concept of quality as an administrative philosophy to reach the competitive advantage in different productive and service institutions. We will review the most important foreign and Arab researches that came in this field:

Feet (Lewis, 1997) study entitled, why quality improvement in higher education? Where the importance of applying TQM in higher education was clarified. The study concluded that "the application of TQM allows the university to better connect with the community, help it overcome isolation problems between its departments and colleges, and address many shortcomings in the preparation of students. Which is based on the overall quality of higher education, which is the commitment to continuous improvement, commitment to customer satisfaction, and dealing with data and information, truth and truth, and respect employees and encourage them to cooperate and achievement.

Gopal (1999) presented a paper entitled Total Quality Management in Higher Education Institutions in the United Kingdom. The aim of the research is to clarify how the principles of TQM and the basic concepts of organization lead to the recognition of the importance of the quality of the institutions in many internal processes. The study concluded that the measurement of the basic principles in this department and its core concepts which represent important success factors, performance in the organization and affects business excellence.

In a study for (Ayyub, 2000), entitled Evaluating the Effectiveness of Using Total Quality Management System in Developing the Performance of Jordanian Universities. The aim of the study was to identify the effectiveness of using the TQM system in developing the performance of Jordanian universities. The study concluded that teams should be formed to cooperate and coordinate with each other to implement comprehensive quality improvement programs and strategies in universities.

Reed (2000) research entitled "Total Quality Management and Maintaining the Competitive Advantage". The research aims at finding out the fact that the application of TQM can result in retaining competitive advantage. The study concluded that "TQM content is capable of achieving Cost and diversification, as well as the continuation of TQM processes, which gives the possibility of maintaining the competitiveness of the organization."

In the Ebidah, (2003) study entitled Developing a TQM Model and Its Applicability in Jordanian Public Universities, the study aimed at developing a TQM model and identifying its applicability in Jordanian public universities. The study community consisted of all deans, heads of departments, and the study reached the

proposed scenario for developing a comprehensive quality management model in Jordanian public universities.

The study Alawneh (2004), published the title of the application of the principles of TQM in the Arab American University, the study aimed to identify the application of the principles of TQM in the Arab American University from the point of view of the members of its teaching staff.

The results of the study indicate that the degree of application of the principles of TQM in the Arab American University was high, and the degree of application of the field of quality requirements in education and the field of follow-up and development of the educational process was also high while the degree of application of the field of human development and decision-making and community service was medium. Overall, the results indicated that the degree of application of the principles of TQM was high, due to the outstanding management method in the university, especially that the university administration is working to benefit from the experiences of Arab and foreign universities in applying modern management concepts And a modern university.

The study of Khatib (2007), entitled "Introduction to the application of standards and total quality systems in Saudi educational institutions." The aim of the study was to shed light on the concept of total quality in education by discussing the various intellectual visions that dealt with the overall quality standards and their models, how to control them, and the fields of application. in educational institutions. The study concluded that the overall quality of education represents an integrated strategy for the development of educational institutions, and suggested several recommendations to activate quality control in education and to ensure improvement of educational practices to increase efficiency, proficiency and excellence.

The Mianeir (2008) was titled TQM as a competitive advantage from the applied side, the aim of this study was to find out how the organization can achieve competitive advantage through TQM using the marketing mix. The study concluded that quality is an additional cost to the organization. But it is a way to increase productivity in the organization and help them in planning better and also achieve high quality. The results also showed that competitive advantage is achieved through appropriate quality management in pricing and application of distribution strategies applied in the organization.

### *2.1 Application of Study*

The practical aspect of this study included testing the hypotheses related to the implementation of quality standards in Jordanian private universities, as well as testing the reliability or independence between the elements of the Baldrige quality standards and the elements of achieving the competitive advantage of the study society. Finally, trying to know what variables of the elements of Baldrige quality standards have a significant impact on the achievement of competitive advantage in the study community.

Baldrige's quality standards have included several variables which we consider to be independent variables: Senior management commitment to quality x1, strategic planning x2, customer satisfaction x3, information availability and analysis x4, and x5 workforce efficiency. The y variable included three axes: cost competitiveness strategy, competition strategy for excellence and diversification, and competitive strategy for response speed.

The study population consists of (N = 685) staff members distributed in (6) private universities. The sample was randomized by class sampling (n = 220) represented by employees in universities departments, representing 32% (%) Of the total number of employees and 160 (73%) of the study sample were retrieved.

In this study, the researcher relied on the Baldrige quality criteria that were presented in the Malcolm Baldrige (Baldrige 2004) as independent variables. The dependent variable was the model of competitive advantage and strategies for the world explain the relationship of the independent variables with the dependent variable.

### *2.2 Data Collection*

The study relied on two methods to obtain the necessary data:

Secondary sources, where the review of books and periodicals, reports, research and messages published and unpublished, in addition to the specialized sites of the International Information Network (the Internet). Preliminary sources, where primary data were collected through the development of a questionnaire, based on literature review and the results of previous studies. This questionnaire included all the dimensions used to measure the variables.

### *2.3 Instrument Validity*

The questionnaire was developed, tested and modified through distributing few copies of the questionnaire to some experts from Jordanian universities; therefore, the questionnaire was amended according to their opinions, comments, and suggestions. Each variable was divided into a number of measurable dimensions, and then measured through a number of standard statements.

## 2.4 Operational Definitions

1. Administrative leadership: It is the focus of the integrated system that seeks to achieve quality, which is the first and direct responsibility for customer satisfaction.
2. Strategic Planning for Quality: Baldrige explained that strategic planning for quality is an integrated process and pointed out the need to make the plans for achieving the total quality coherent in achieving the planning goals.
3. Human resources management and development: are the multiple aspects related to the quality of the operation of human resources and investment through training.
4. Information Analysis System: means the effectiveness of the use of information to support management systems in the organization.
5. Customer Satisfaction: A level of customer satisfaction resulting from the comparison between product performance and customer expectations about the product. In other words, customer satisfaction is the indicator by which the difference between performance and expectations can be understood.

## 3. Study Model

In this study, the researcher relied on the Baldrige quality standards that came in the Malcolm Baldrige Award for Distinguished Education, (Baldrige, 2004) as independent variables. The dependent variable has been adopted as a model of competitive advantage and its strategies for the world to clarify the relationship of independent variables with the dependent variable as shown in Figure 1.

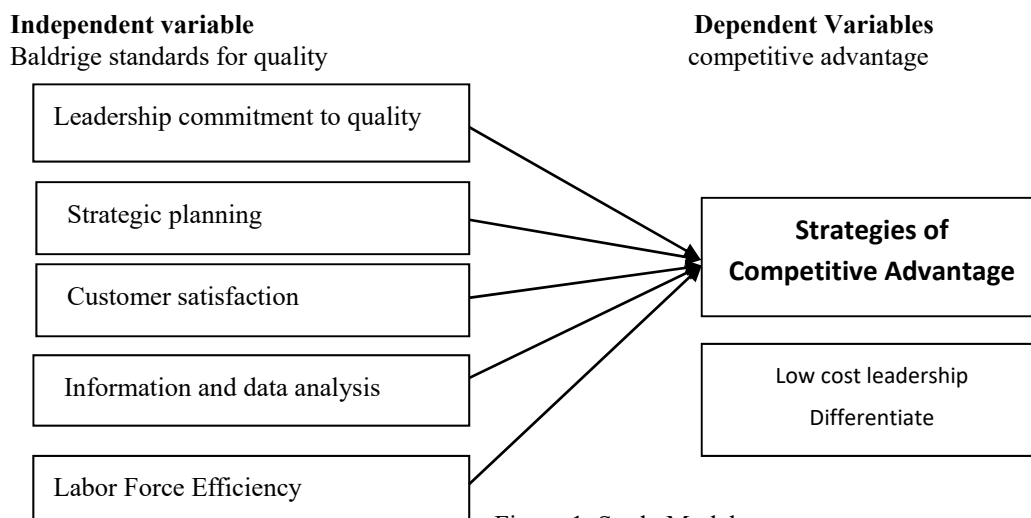


Figure 1. Study Model

## 3.1 Study Hypotheses

The hypotheses of this study will be analyzed based on the statistical package (SPSS) and the statistical package (Minitab). The hypotheses included in the study were:

### The first main Hypothesis

There is implementation of the Baldrige standards for quality in Jordanian private universities

H0:  $\mu = 3.5$

H1:  $\mu > 3.5$

Minor Hypotheses:

1. The senior management commitment to quality is applied in Jordanian private universities.
2. Strategic planning is applied in Jordanian private universities.
3. Customer satisfaction is applied in Jordanian private universities.
4. The provision of information and data analysis shall be applied in Jordanian private universities.
5. Applying the efficiency of the labor force in Jordanian private universities.

### The second main Hypothesis

there is reliability between the quality standards and competitive advantage strategies in Jordanian private universities.

H0: Baldrige standards for independent quality elements

H1: Competitive advantage is not independent elements

This hypothesis has included several Minor hypotheses:

1. There is reliability between the commitment of senior management to quality and the strategies of competitive advantage in Jordanian private universities.
2. There is reliability between strategic planning and competitive advantage strategies in Jordanian private universities.
3. There is reliability between customer satisfaction and competitive advantage strategies in Jordanian private universities.
4. There is reliability between the availability of information, data analysis and competitive advantage strategies in Jordanian private universities.
5. There is reliability between the efficiency of the labor force and the strategies of competitive advantage in Jordanian private universities

### The third main Hypothesis

There is a statistically significant relationship between the Baldrige quality standards and the competitive advantage strategies in Jordanian private universities.

H<sub>0</sub>:  $\rho=0$

H<sub>1</sub>  $\rho \neq 0$

This hypothesis has included several Minor hypotheses as follows:

1. There is a statistically significant relationship between the commitment of senior management to quality and competitive advantage strategies in Jordanian private universities.
2. There is a statistically significant relationship between strategic planning and competitive advantage strategies in Jordanian private universities.
3. There is a statistically significant relationship between customer satisfaction and competitive advantage strategies in Jordanian private universities.
4. There is a statistically significant relationship between the availability of information, data analysis and competitive advantage strategies in Jordanian private universities.
5. There is a statistically significant relationship between labor force efficiency and competitive advantage strategies in Jordanian private universities.

### The fourth main Hypothesis

There is a significant effect on the competitive advantage of Jordan's private universities. Where the multiple regression model was adopted

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5$$

The hypothesis is to be tested

H<sub>0</sub> :  $\beta_i = 0$       $i=1,2,3,\dots,5$

H<sub>1</sub> :  $\beta_i \neq 0$

## **4. Results**

Data were collected for the sample of the study according to the questionnaire that was prepared for the purpose of conducting statistical analysis and verification of the hypotheses described above, we have adopted a significant level = 0.05  $\alpha$ . The results of the hypotheses are reviewed below.

### *4.1 First: The Results of the First Hypothesis*

The first hypothesis was tested to verify the extent to which the study community applied the Baldrige quality standards. Table 1 shows the values of the T test with the p-value. We see that the tests were significant for each of the senior management commitment to quality, availability of information, data analysis, and efficiency of the

labor force. While both strategic planning and customer satisfaction were not statistically significant, this meant it was not applied.

Table 1. Constructs the arithmetic mean, standard deviation and T test

Variables	Standard Mean	Standard Deviation	T Value	Significance level
Leadership commitment to quality	3.20	.495	4.93	.000
Strategic Planning	3.03	.564	.77	.221
Customer satisfaction	2.97	.553	-.68	.752
Information and data analysis	3.15	.523	3.50	.000
Labor Force Efficiency	3.07	.510	1.89	.030

#### 4.2 Second: The Results of the Second Hypothesis

The second hypothesis was tested to determine whether there is reliability between the Baldrige quality standards and the competitive advantage strategies in the study community. Table 2 shows the results of the test. We observe that the commitment of senior management to quality, availability and analysis of information is independent of competitive advantage strategies, while strategic planning and satisfaction Customer and workforce efficiency are independent of competitive advantage strategies.

Table 2. Testing independence between Baldrige quality standards and competitive advantage strategies (calculated level of significance)

Variables	Competitive Advantage Strategies P-value
Leadership commitment to quality	.219
Strategic Planning	.014
Customer satisfaction	.000
Information and data analysis	.332
Labor Force Efficiency	.000

#### 4.3 Third: Results of the Third Hypothesis

The third hypothesis was to test the relationship between the Baldrige quality standards and the competitive advantage strategies. The Spearman correlation formula was used to calculate the correlation coefficient between these variables. Table 3 shows correlation values and their significance tests.

Table 3. Test the correlation coefficient between the Baldrige quality standards and competitive advantage strategies.

Variables	Competitive Advantage Strategies	
	The value of r	p-value r
Leadership commitment to quality	.182*	.014
Strategic Planning	-.153*	.32
Customer satisfaction	.067	-.209
Information and data analysis	.057	.247
Labor Force Efficiency	.143*	.046

\* Significant correlation at  $\alpha = 0.05$  (1-tailed).

The results of the third hypothesis can be summarized as follows:

1. There is a statistically significant relationship between senior management commitment to quality and competitive advantage strategies.
2. There is a statistically significant relationship between strategic planning and competitive advantage strategies.

3. There is no statistically significant relationship between customer satisfaction and competitive advantage strategies.
4. There is no statistically significant relationship between the availability of information, data analysis and competitive advantage strategies.
5. There is a statistically significant relationship between labor force efficiency and competitive advantage strategies.

#### 4.4 Fourth: The Results of the Fourth Hypothesis

In order to determine whether the independent variables represented by the standards of the degree of quality have a significant effect on the competitive advantage, the multiple regression model shown in the applied side has been adopted. The Table 4 shows that there is a significant effect on each of the Baldrige standards for independent quality, which includes the commitment of senior management to quality, customer satisfaction, information availability and data analysis on competitive advantage. While there is no significant effect on each of the two components of Baldrige standards for independent quality strategic planning and the efficiency of the workforce on competitive advantage.

Table 4. Multivariate moral regression testing

Variables	$\beta$ Value	T Value	P value
Leadership commitment to quality (X1)	.209	2.759	.007
Strategic Planning (X2)	-.055	-.755	.452
Customer satisfaction (X3)	-.131	-1.690	.009
Information and data analysis (X4)	.208	2.969	.004
Labor Force Efficiency (X5)	.058	.685	.495

## 5. Recommendations

The researcher summarized several recommendations according to the conclusions:

1. Universities should be interested in applying the concept of strategic planning through the development of comprehensive strategies that include drawing the parameters of the future in the application of standards Baldrige for quality.
2. Universities should pay attention to customer satisfaction, taking into consideration the importance of following up their opinions and desires, and finding out how satisfied they are, especially the students, about the level of educational services provided by universities.
3. Adopting the Baldrige model of education in universities where its application is considered as an indicator of performance excellence.
4. Activate the quality assurance control departments in each university and work to follow continuous improvement in all departments and colleges to develop the educational service.

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