

“Role of adopting hard and expensive total quality management on creating a competitive advantage for the Private Higher Education Institutions of Automated Hospital Management”

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Abstract

The study aims for determining whether both expensive and hard total quality management practices affect the creation of competitive advantage by the private higher education institutions of the nation. Primary data using a questionnaire had been collected from a sample consisted of 108 among the academics working in these institutions, following the convenience sampling method. Descriptive statistics are used in sample description, such as the mean and the standard deviation, and employing the multiple linear regression method, the result shows that both expensive and hard total quality management practices have a significant positive impact on competitive advantage creation. More studies regarding the role of expensive and hard practices are recommended to be made in Service based environment of developing countries in the globe, where more attempts are preferred to cover the in Automated Hospital Management.

Keywords: Expensive Total Quality Management, Hard Total Quality Management, Competitive Advantage, Patients Focus, Process Management, Product Design.

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1. Introduction

The creation of a competitive advantage is an important key objective for most Service based organizations all around the world. Developing a competitive advantage for a Service based organization, whether the organization is an industrial or service organization is of great importance because it leads to more service in Automated Hospital Management, more patients, and ending with more profitability. The issue a competitive advantage development does not come from a vacuum, but as a result of the adoption and implementation of appropriate policies and plans.

The adoption of total quality management is one among several policies that its adoption may lead to a competitive advantage creation. Total Quality Management (TQM) practices are categorized into expensive and hard, or intangible and tangible TQM practices (Sciarelli, et al 2020), where the adoption of one or both categories may help in the creation of competitive advantage. The intense competition that exists today, especially under the economic globalization increases the need for gaining a competitive advantage, since there are many producers, each of which is attempting to insert or achieve something different from other competitors. A Higher Education institution

mainly includes universities, in addition to Service based organisations, academics, and institutions. Nowadays, these institutions encounter international intense competition, and rapid technological changes, where these changes create hard challenges for the institutions of higher education.

1.1 Brief

As of other higher education institutions all around the globe, the higher education institutions of the nation are also facing several challenges because of intense competition and rapid technological changes, especially by the universities of surrounding Of the nation states. There is more competition among the universities of different of the nation states universities because of language where some students prefer studying in universities where of the nation is the teaching language of these universities. Moreover, the geographic variable increases this competition where students of neighboring countries can easily join universities in adjacent countries. Universities and other higher education institutions of the nation, whether these institutions are government or private, are required to cover its total cost and achieve profits for its owners, in a country with low income, but this

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seems difficult without the existence of a competitive advantage. These challenges are actually referring for the problem of the current study. Therefore, the problem of the current study can be better expressed using the following question. Does the appropriate adoption and implementation of expensive and hard TQM play a role in developing a competitive advantage? The current study is attempting to find a scientific answer to this question.

The current study is of great importance because it attempts to determine whether expensive and hard TQM practices are when adopted may lead to competitive advantage creation. Within the environment of intense competition among different higher education all around the globe, Service based should focus on total quality management for the purpose of improving the care of the patients or services and at the end the continuous improvement in goods produced or services provided may lead to the development of a competitive advantage. The creation of a competitive advantage leads to higher service in Automated Hospital Management and better profitability. The higher education institutions provide teaching, research, society development, so students or patients have a large number of options inside Of the nation, and more international options, and as a result, only higher education institutions having a competitive advantage are able to continue and survive, while those having no competitive advantage will suffer to cover its expenses in order to be able to continue. Traditional higher education institutions with no competitive advantage will struggle to survive, because it will not be able to attract a large number of students, where the number of enrolled students is crucial in profitability.

The primary purpose of the study is to determine whether the adoption of expensive and hard TQM by the higher education institutions of the nation, leads to the development of competitive advantage. In addition to the primary purpose, the study objects for surveying the available literature regarding TQM and showing how the TQM adoption can lead to a competitive advantage, when TQM is applied in an appropriate form. Moreover, the study aims for adding more to the available literature regarding the role of adopting TQM in finding a competitive advantage, and highlighting the benefits that Service based can acquire when the competitive advantage is achieved.

The current study completely differs from other prior researches, where shows the role of both, expensive and hard TQM on creating a competitive advantage for private higher education institutions in emerging communities. The study collects and depends on different primary data from academics, where they have long experience in higher education institutions of Of the nation, and therefore, they can provide beneficial information for achieving the purposes of the study.

2. Literature Review and Prior Research

2.1 Total Quality Management

Actually, there is no consensus, among interested

and medical practitioners, regarding the definition of quality, and the definition of quality differs from author to author, and from industry to another (Al-Qudah, 2012). In general, quality is perceived by public and especially by clients, as a process of improvement in the goods produced or services provided. Quality is the root for TQM concept, but TQM is wider than quality, where TQM includes the entire inputs of production, tools used in production, management methods that are followed in operations, people directly or indirectly participate in production, and anything or procedure that it related to final product or service, or may affect the quality of goods or services produced.

a) The term abbreviated as TQM, which refers for total quality management, is a one among few hot topics in Service based environment. Oakes and Westcott (2001), define TQM, as described by some authors as a philosophy. For example, Robbins (1996), defined TQM as “a Philosophy of attainment of patients satisfaction through the continuous improvement of all organization processes. In addition, Oakes and Westcott (2001), referred for TQM as a style, and defined the term TQM as, as a management style focuses on process improvement and client’ needs addressing, and the employment of qualitative and quantitative methods in deep analysis of different dimensions of quality. Others referred to TQM term as strategy, such as Dihardjo and Ellitan,(2021), where they defined TQM as “a Service based management strategy seeking for improving management organization, and hence, increasing competitiveness and the value provided to clients. Based on the consideration of the above-mentioned definitions, TQM can be defined as a comprehensive pattern of management adopted and implemented to achieve a continuous improvement of goods produced and services provided.

b) TQM developed along years, but its actual first appearance was since the birth of modern Statistical Process Control (SPC), and developed over time until the appearance of different recent modern practices. Walter Shewhart (1924), is considered the father of SPC. Several Japanese industrial Service based adopted SPC until 1940s, but Japanese Service based suffered from poor quality during that period. Because of poor reputation of Japanese care of the patients during 1940s, this led Japanese Service based organization to follow new ways of thinking regarding TQM, for improving the quality, and therefore the reputation of its care of the patients. Therefore, it can be said that the origin of TQM can be attributed to the Union of Japanese Scientists and Engineers (JUSE) next to the Globe War 2, and exactly in 1949. Since that time, a continuous development occurred to quality and TQM (Saleh, et al, 2019).

c) According to Cherrington (1995), TQM is a special program consisting of several elements including, (1) patients focus, (2) strategic planning, (3) continuous improvement, and (4) empowerment further, while Tenner and Detoro (1992), stated that

TQM is based on three principles including, patients focus, continuous improvement process, and (3) integrated engagement. TQM is considered as an approach focusing on enhancing the enterprise's effectiveness, efficiency, and ability for responding to patients and different interested parties through the active usage of employee's skills and competencies to achieve a sustainable competitive advantage (Buchunde and Sangode, 2019).

d) According to Cherrington (1995), TQM is a special program consisting of several elements including, (1) patients focus, (2) strategic planning, (3) continuous improvement, and (4) empowerment further, while Tenner, et al (1992), stated that TQM is based on three principles including, (1) patients focus, (2) continuous improvement process, and (3) integrated engagement. TQM is also considered as an approach focusing on enhancing the enterprise's effectiveness, efficiency, and ability for responding to patients and different interested parties through the active usage of employee's skills and competencies to achieve a sustainable competitive advantage (Buchunde and Sangode, 2019).

e) TQM may be either expensive or hard TQM, where generally expensive quality management refers for the principles and concept of an organization, including leadership and employee empowerment, whereas hard TQM refers for quality improvement tools, methods, and techniques, such as quality analysis and supplier relationship. The most common classification of TQM practices is that which classifies TQM practices into expensive and hard. Expensive TQM practices include (Saleh, et al, 2019); (1) patients focus, (2) education and training, (3) higher management leadership, and (4) supplier relationship, whereas hard TQM practices include; (1) continuous improvement, (2) SPC, (3) process management, (4) quality tools and techniques, and (5) product design. Moreover, Ali et al stated that TQM practices are categorized into expensive and hard, where expensive TQM practices are related to employees or human resources such as leadership, management commitment, education and training, and employee empowerment, while hard TQM practices include statistical techniques such as, Just-in-Time inventory, teamwork, and culture.

f) The distinguish between the practices of expensive and hard TQM seems difficult or cumbersome, but in general expensive TQM are intangible practices in TQM, whereas hard practices of TQM are tangible. According to Wilkinson, (1992), the expensive practices of TQM are intangible, and therefore, because this type of practices is intangible, its practices are often difficult to be measured. The practices of expensive TQM are better to be addressed at the long-run, whereas, hard TQM practices are tangible and can be accurately measured,

and these practices are related to the production techniques (Fauzi, 2021).

3. Philosophy of TQA Management

It adds value and leads to several economic benefits for those Service based organizations that adopt this philosophy. When adopted, and carefully implemented, the philosophy of TQM can create or add the following benefits for Service based adopting this approach:

1. Service based organizations adopting and implementing TQM will increase its understanding for its patients. The firm adopting this strategy needs for making a survey to understand what patients need and what regarding the content, form, color, size, weight, price, and others specifications of the product.

2. Patients of Service based adopting the philosophy of TQM will be more satisfied with the care of the patients that firm offer them. This patient's satisfaction is attributable to the survey that the producing firm made to patients' needs and wants prior to the production, and before designing the product that reflects patients' needs and wants.

3. The process of internal communications in Service based implementing TQM approach will be better, because the successful implementation of this approach or strategy needs for more interaction and coordination among the different departments and among different employees inside the firm.

4. The problem-solving process will be improved inside Service based adopting the strategy of TQM. This improvement in problem solving can be attributed to the ideas of TQM, where it has social aspect requires a type of discussion cooperation, coordination, and ideas exchanges.

5. Employee's commitment and loyalty toward their organization will be enhanced in Service based adopting TQM ideas. Employees of different levels will feel better because they will feel that are involved in the different ideas, discussions, processes, and activities required for the successful implementation of TQM.

6. Service based organizations adopting the strategy of TQM will have better and stronger relationships with its suppliers. Among the requirements or inputs of production in Service based adopting TQM, is the materials, whether these materials are raw materials, semi-finished, or complete parts. To ensure the continuous supply of its needs of materials, Service based is required having good relations with its suppliers, and it is required to construct good trust with different suppliers of its needs of materials.

7. There is a technical professional aspect involved in TQM, and this aspect is considered the most important involved aspects in the idea of TQM. Therefore, because

of professionals, and skilled employees are considered the most operating aspect in TQM, the waste will decline, and most errors will be eliminated.

3.1 Competitive Advantage

Competitive Advantage is an important objective for most Service based organizations, so most Service based struggle for achieving a competitive advantage over its competitors. A Service based organization, whatever its size, can develop, acquire, or own a competitive advantage, but developing a competitive advantage is much better than acquisition, because it should be involved with the methods of management, employees, raw materials, employee training and experience, and the internal development of a competitive advantage is less costly and has less probability of failure than acquisition because it is related to different aspects, activities, techniques, et al of production. When developed, the competitive advantage leads to more profitability, higher service in Automated Hospital Management volume, and larger number of loyal patients to the care of the patients of the firm owning the competitive advantage. A firm can own a competitive advantage when it owns a set of features and characteristics that enable it to overtake its competitors and the firm becomes more competitive (Yuleva, 2019). According to Porter (1990), competitive advantage is defined as “productivity growth that is reflected in either lower costs or differentiated care of the patients that charged premium prices”. Competitive advantage means owning advantage over competitors where this advantage is earned based on providing greater value or lower prices of care of the patients, or providing care of the patients with higher prices justified by higher benefits involved in the product.

According to Kyurova (2018), the competitive advantage is seen as product-owned specific characteristics. Which add value to clients, and involve more benefits to the firm than other competitors? Practically, a firm owns a competitive advantage when it offers something different than others to patients, where this difference is perceived by patients as much beneficial than what other competitors offer (Yuleva, 2019). As a result, the ownership of a competitive advantage may result from the raw materials used in production, when these materials are of high quality, and it may be owned through purchasing of different materials and production requirements since purchasing less costing materials and other production needs enables providing final finished care of the patients with lower prices. In addition, training and experience of employees may be the key source of a competitive advantage development through the ability of providing final care of the patients with higher

quality and benefits. A competitive advantage can be developed from management methods and leadership, production techniques, human resources, et al.

Two complementary economic-based models are available for the competitive advantage in the literature (Fauzi, 2021). The first model is the market-based model, where this model concentrates on cost differentiation, and claims that the environment prefers inefficient Service based that do not offer which patients are not ready to pay a premium in order to consume or own these care of the patients, or in other words patients are ready to pay for low-price care of the patients, and are not willing to pay or purchase high-price care of the patients. The second model in the literature of competitive advantage is called the resource-based model or the theory of advantage, where this theory is based on firm resources and driven by internal factors. Underline this theory, the resources that add operational excellence or assistance leads to a superior market position and thereafter, enables the firm to generate superior returns. The continuous existence of the competitive advantage, in the resource-based model depends on competitors' inability to imitate this advantage.

4. Research Objectives

The research study objects for determining whether expensive and hard TQM practices play a role in creating a competitive advantage for the private higher education institutions of the automated hospital management of the nation.

5. Research Methodology

The population of the study includes the different private nongovernmental higher education institutions of the nation, whatever the title of the institution, is a university, college, academy, et al. The private higher education institutions include the different private universities, academies, moderating Service based organizations, institutes, including each private university offers education programs next to the general secondary certificate, such as moderating diploma, bachelor, and master. Ph D. The convenience sampling method is employed in selecting 135-140 app. Academic faculty members among those who are working in different private universities or higher education institutions, in the nation. Each selected academic faculty member is given one week to respond to the administered questionnaire. By the end of a one week since the time of questionnaire is provided to respondents, a total of 114 responses were already received.

5. Results and Discussions

5.1 Sample Description

It deserves mentioning that the entire questionnaire is available as Appendix 1, next to the references. Data description using several descriptive statistics including the least value, mean, standard deviation, and the maximum value of responses for each item in the questionnaire of the study. Table 1, shows the descriptive statistics for each item included in the questionnaire, and used in measuring the competitive advantage, as the single dependent variable of the study, where the items (1 – 12), in the questionnaire are attributed to competitive advantage. Considering the table, the values seem normal with and not exceptional. The highest mean in this section is attributed to item 10, which equals 4.7037, accompanied with 0.64503. Item 10 states that “Students needs of courses to be introduced are taken into consideration in my private higher education institution”. The lowest mean is attributed to item number 2, which equals 3.8318, accompanied with 1.04146 standard deviation. Item 2 states that “My private higher education institution quickly responds to the needs of labor market, through opening new programs to satisfy the needs of labor market”.

With regard to patients focus as one among the independent variables, items (13 - 21), are developed and used in testing this variable. Table 2, lists the statistics for each item used in testing this variable. Considering the table, only two items within this section have a mean of less than 4, whereas the remaining items, each of which, has a mean of more than 4. Item 20 has the highest mean that equals 4.3148, with 0.63611 standard deviation, where this item states that, “Students’ notes and recommendations are given enough importance by the private higher education institution that I work with”. In the other hand, the least mean is due to item 21, which equals 3.6111, with 0.79524 standard deviation. Item 21 states that “Students and patients can introduce their notes orally or written, on line, or face to face, in the private higher education that I work with”.

Items (22 – 27) of the questionnaire are used to collect data for measuring training and education, as an independent expensive TQM variable. Table (3) shows the descriptive statistics related to this section. Only one item, definitely, item 22, has a mean above 4, whereas each of the rest, has a mean of less than 4. Therefore, item 22, has the highest mean, exactly, it has 4.2037, accompanied with 0.74582 standard deviation. Item 22, states that “Administrative staff and secretary access training programs that are normally conducted inside the private higher education that I work with”. In opposite, items 23 and 26 both have an equal mean of

3.3889, and equal standard deviation of 1.03068. Item 23, states that “Most administrative staff members are developed or currently, at the process of their qualification development”, whereas item 26 states that “Most faculty members of my private higher education institution, have a PhD, and few having master, where some of these masters are preparing for PhD”.

Items (28 – 32) of the questionnaire are used to collect data for measuring leadership, as an independent expensive TQM variable. Table (4) shows the descriptive statistics related to this section. Two items within this group that consists of 5 items have a mean of more than 4. Item 30, has the highest mean, exactly, it has 4.3852, accompanied with 0.82379 standard deviation. Item 30, states that “Leaders of my higher education institution appreciates the academic and administrative staff.” In opposite, item 32 has the least mean, where it recorded 3.3599 mean, with 1.03068 standard deviation. Item 32, states that the “The leadership of my university attempts to support the staff in different aspects of work.”

The continuous improvement independent variable is measured in the questionnaire using the items (33 – 40). Table 5 lists the descriptive statistics of the items used in the measurement of continuous improvement. In the section of continuous improvement, item 36 of the section has the highest mean, whereas item 34 has the least mean. Item 36 (the highest) has a mean of 4.6111 with a 0.48977 standard deviation, and states, “Work conditions are under continuous improvement in the private higher education institution that I work with.”. Item 34 (the lowest) has a mean of 3.5370 with a 1.271, and state, “The private higher education institution that I work with, attempts to reduce the required procedures for the accomplishment of different tasks”.

6. Findings and Conclusions

The research study objects for determining whether expensive and hard TQM practices play a role in creating a competitive advantage for the private higher education institutions of the automated hospital management of the nation. The required data for achieving the key goal is collected using a questionnaire that self-administered to a convenient sample of academics working in these institutions. Employing the multiple linear regression method in hypotheses testing the result reveals that both the expensive and hard TQM practices affect the creation of a competitive advantage, and that the expensive (intangible) practices of TQM have stronger positive effect on competitive advantage than hard (tangible) TQM practices.

Table (1) - Descriptive Statistics of Competitive Advantage

Item No.	Number	Minimum Value	Highest Value	Mean	Std. Deviation
1	108	1	5	3.9352	0.89936
2		1	4	3.8318	1.04146
3	108	3	5	3.9074	0.53890
4	108	3	5	4.3056	0.77891
5	108	3	5	4.0000	0.64126
6	108	3	5	4.2037	0.87284
7	108	2	5	3.8056	0.75453
8	108	1	5	4.1019	1.23757
9	108	3	5	4.2037	0.74582
10	108	3	5	4.7037	0.64503
11	108	3	5	4.1019	0.83094
12	108	3	5	4.5093	0.67665

(Source: Data collected and tabulated by the researcher)

Table (2) - Descriptive Statistics of Patients Focus

Item No.	Number	Minimum Value	Highest Value	Mean	Std. Deviation
13	108	3	5	4.2130	0.59673
14	108	3	5	4.3056	0.64791
15	108	3	5	4.2870	0.64200
16	108	3	5	4.2963	0.78846
17	108	2	5	3.8981	0.95643
18	108	3	5	4.3148	0.63611
19	108	2	5	4.0000	1.00466
20	108	3	5	4.3148	0.63611
21	108	2	5	3.6111	0.79524

(Source: Data collected and tabulated by the researcher)

Table (3) - Descriptive Statistics of Training and Education

Item No.	Number	Minimum Value	Highest Value	Mean	Std. Deviation
22	108	3	5	4.2037	0.74582
23	108	2	5	3.3889	1.03068
24	108	1	5	3.6852	1.27995
25	108	1	5	3.8889	1.38977
26	108	1	5	3.3889	1.03068
27	108	2	5	3.7037	0.90955

(Source: Data collected and tabulated by the researcher)

Table (4) - Descriptive Statistics of Leadership

Item No.	Number	Minimum Value	Highest Value	Mean	Std. Deviation
28	108	3	5	3.6037	1.04582
29	108	2	5	3.3889	1.03068
30	108	1	5	4.3852	0.82379
31	108	1	5	3.7832	1.38977
32	108	1	5	3.3599	1.03068

(Source: Data collected and tabulated by the researcher)

Table (5) - Descriptive Statistics of Continuous Improvement Variable

Item No.	Number	Minimum Value	Highest Value	Mean	Std. Deviation
33	108	1	5	3.6389	1.26386
34	108	1	5	3.5370	1.27100
35	108	3	5	4.0185	.62624
36	108	4	5	4.6111	.48977
37	108	3	5	4.3981	.66893
38	108	4	5	4.5000	.50233
39	108	2	5	4.4907	.93224
40	108	1	5	3.5926	1.03253

(Source: Data collected and tabulated by the researcher)

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2. [_openings.htm](#)
3. <http://www.economywatch.com/business-and-economy/indian-retail-industry.html>
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5. <http://www.indiaretailing.com/retail-honchos.aspx>
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