



Contents lists available at ScienceDirect

ScienceDirect

journal homepage: www.elsevier.com/locate/aebj

Conference Title

Factors critical to the success of Six-Sigma quality program and their influence on performance indicators in some of Lebanese hospitals

Assrar Sabry*

Alexandria University, Egypt

ARTICLE INFO

Article history:

Received 24 February 14

Received in revised form 14 June 14

Accepted 14 Juillet 14

Keywords:

Six-Sigma quality program

Critical success factors

Key performance indicators

Hospitals

CSFs

KPIs

ABSTRACT

Medical literature reports that Six-Sigma was applied at specific healthcare organizations. However, there is a lack of studies that investigate the broader status of Six-Sigma in Lebanese healthcare systems. The purpose of this paper is to explore the realities of factors critical (CSFs) to the success of a Six-Sigma quality program to identify the nature of the quality program implemented in some of Lebanese hospitals in Beirut. It also examines the impact of (CSFs) of a Six-Sigma quality program and its influence on performance indicators.

In order to achieve the objectives of the study, two questionnaires were used; ANOVA, Eta Squared, Pearson Correlations were used to analyse the data collected from a sample of 101 respondents. Three hypotheses, (H1), (H2) and (H3), were tested and partially accepted based on the results found.

The rest of the paper is organized as follows: First, an overview on the relevant literature reviews with respect to the identified Six-Sigma factors. After that, the methodology and the data analysis of the results are presented. The end of this paper is concluded with the discussion and suggestions for further research.

© 2014 Holy Spirit University of Kaslik. Hosting by Elsevier B.V. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

The challenge in the Lebanese healthcare industries is how to balance between quality and accessibility to the health care. The health care sector in Lebanon falls under a private sector. Lebanon has a total of 130 hospitals spread throughout the country of which 105 fall under the private sector and 20 under the public sector (Health Care Sector in Lebanon: Syndicate of Private Hospitals, 2012).

Based on the report prepared by (Rivers, 2010) and with Association of the American Hospital in Lebanon, the service quality and patients satisfaction are getting considerable attentions and these issues are

considered in their strategic planning process. Patients' perceptions about the services provided by particular health care organizations affect the image and profitability of the hospital and it also significantly affects the patient behaviour in terms of their loyalty. As mentioned by (Muhammad and Ijaz, 2011), increased patients' expectations about the service quality had pushed the healthcare service providers to identify the key determinants that are necessary to improve healthcare services that cause patients satisfaction and yet also help the service providers to reduce time and money involved in handling patient's complaints. Quality has become a major societal concern, as pointed out in latest reports such as The State of Health Care Quality. Healthcare organizations have been looking for ways to improve the bottom line and the quality of patient care. Some typical

* Corresponding author.

E-mail address: Assrarsabry@yahoo.com; Tel: 71- 191207

Peer review under responsibility of Holy Spirit University of Kaslik.



Hosting by Elsevier

quality programs include the International Standards Organization (ISO) 9000 standards, the total quality management philosophy, Toyota Production Systems (TPS), Lean manufacturing and recently the Six-Sigma program. These quality standards and programs can be conveniently borrowed to improve the performance of healthcare systems (Feng et al, 2008).

Quality of care can be defined by many ways depending on the stakeholders involved in the industry. It can be different from the view of the government, the shareholders, the clinical and non-clinical staff, the patients and also the carers. Patient's satisfaction has been used widely all over the world to assess the quality of services rendered in healthcare facilities. According to (Ismail and Alhashemi, 2011) the health managers can identify the components of quality care such as the structure, process and product of care by assessing the patient's satisfaction. Joseph and Kristina (2004) reported three approaches to quality improvement in the healthcare industry to improve patient satisfaction by measuring the patient's perspective, improving patient outcomes and using Six-Sigma approach.

Chakrabarty and Kay (2006) reported that defects found in a service process incur a cost either to scrap or rework. Such service examples include the need to re-contact a customer in order to verify either an order, or providing an incorrect service, or providing a substandard service, or even over servicing or providing more than what is required. The literature review shows that empirical studies are limited to service industries, such as healthcare systems. The financial benefits have the most concern, in contrast to discussing gain in terms of process improvement. In addition, it is important to note that the empirical studies emphasized the proper identification of critical success factors (CSFs), critical to quality (CTQ) characteristics, and key performance indicators (KPIs) much more than testing the relation between these factors in the form of conceptual models. All over the world healthcare is facing serious quality problems while costs are exploding. The Institute of Medicine (IOM) produced two reports demonstrating healthcare has serious safety and quality problems and is in need of fundamental change. Care processes poorly designed and characterized by unnecessary duplication of services, long waiting time and delay. Costs are exploding and waste is identifying as an important contributor to the increase in Healthcare expenditures. As a result, healthcare consistently does not succeed in meeting patient's needs (Heuvel, Does and koning, 2006).

2. Structure

2.1. Research Problem

While there is substantial evidence on the use of six-sigma in many manufacturing industries, there is limited empirical evidence demonstrating the relationship between factors associated with a Six-Sigma quality program and the performance of organizations in the health sector (Hilton et al., 2008; Al Rashdi, 2011). Research on Six-Sigma has been anecdotal in nature with minimal empirical findings (Dellifraie, Langabeer and Nembhard, 2010). This research assists in filling another gap for Six-Sigma quality program in this sector.

The problem statement of this study described in the following questions:

- i. Determine empirically which of the critical success factors (CSFs) of Six-Sigma quality program implementation exist in a sample of Lebanese hospital. Since that there is no agreement

construct available in the literature to measure the key performance indicators in the health sector, the current study will empirically determine the key performance indicators that are suitable to measure the performance in a sample.

- ii. What are the ranking of the CSFs of six-sigma quality program in the two groups (hospital department managers and professionals) within the sample? In order to understand how different the ranking of these factors from the actual ranking presented by the (Hilton et al., 2008).
- iii. What is the relationship between CSFs of Six-Sigma quality program and the key performance indicators of the sample?

2.2. Research Question

The research objectives can be achieved by analyzing the results obtained from posing the following specific research questions:

- i. To what extent can the (CSFs) of Six-Sigma quality program implementation explore the nature of the quality program existing in a sample of Lebanese hospitals? and what is the construct of the key performance indicators available in the literature and suitable to measure the performance in a sample?
- ii. To what extent will the ranking of the (CSFs) of Six-Sigma quality program differ in the two groups of the sample: hospital department managers and professionals from the actual ranking?
- iii. Which of the (CSFs) of Six-Sigma quality program implementation are positively correlated with the construct of the key performance indicators?

2.3. Research Objectives

- i. Address the nature of the quality program in a sample of Lebanese hospitals by describing which of the (CSFs) of Six-Sigma quality program implementation are applied (Hilton et al., 2008; Ismail et al., 2011; Wang and Hussain, 2011). Providing an insight on the basic performance indicators that are available in some previous literature, also, determining which of them are used to measure the performance in a sample.
- ii. Analyze the difference in the ranks of the (CSFs) of Six-Sigma quality program between the actual ranks presented by the (Hilton et al., 2008) and the ranks in the two groups of the sample, the professionals and the hospital department managers.
- iii. Provide an insight on the impact of the (CSFs) of Six-Sigma quality program on the performance indicators (Dellifraie et al., 2010) in a sample.

2.4. Research Importance

This research is important for the following reasons:

- i. Based on (Ettinger, 2001) Six-Sigma principles and the healthcare sector very well matched because of the healthcare nature of very low or zero tolerance to mistakes and the high potentials for reducing medical errors.
- ii. Although the published literature contains many references on quality and customer perceptions of the medical profession from a clinical perspective, very little research has conducted into

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات