



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>
Journal DOI: [10.21474/IJAR01](https://doi.org/10.21474/IJAR01)

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE– CONFERENCE PAPER

Using Lean management to leverage innovation in healthcare projects: case study of a public hospital in U.A.E.

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Manuscript Info

Abstract

Manuscript History:

Received: 19 March 2016
Final Accepted: 15 April 2016
Published Online: May 2016

Key words:

Lean, Innovation, Project management, Healthcare, U.A.E

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Purpose:-

This extended abstract of a published research is provided as a contribution to the 1st Doctoral Research Conference of the British University in Dubai (BUiD). The purpose of the research reported in this abstract is to investigate critical success factors (CSFs) for effective diffusion of Lean innovation in healthcare projects in the UAE. It is mainly to investigate the dynamics of the effort to implement Lean principles to realize improvements in healthcare performance for sustainable development in a public health system.

The research is to explore, through a case study, how the innovative ideas critical to the successful implementation of Lean were able to be diffused effectively.

Design/methodology/approach:-

A conceptual model is developed to explain the CSFs approach for diffusion of Lean innovation in the healthcare projects. The researchers have relied in the development of the model on some elements of two less specific conceptual models found in the literature for successful diffusion of Lean innovation, and on specialist journals in the area of Lean innovation in general and in healthcare specifically. The conceptual model elements that are found to be critical to the successful diffusion are: leadership and management, organizational culture, employee involvement, Lean healthcare practice, financial capability and measurements (metrics). The model success factors for Lean innovation diffusion will be examined in terms of leadership commitment and management support, the openness of the culture and the degree of transparency and communication skills, a broad range of employee involvement and their direct impact towards a successful diffusion, and a correct application of Lean tools and techniques in healthcare projects. In addition, the financial capability will be examined in terms of training and education support and rewarding, and the measurements in terms of measuring for the progress of Lean innovation implementation which will explain the diffusion and success of Lean innovation.

A public hospital that implemented Lean innovation projects successfully in UAE was selected as a case study and the data were collected using an interpretive case study methodology. Primary data came from interviews conducted in the hospital and secondary data from peer reviewed publications -related work. The researchers will investigate the implementations and diffusion of Lean principles in the case study based on the proposed conceptual model. The adoption of Lean principles by management is examined as to its role in setting the foundation to leverage innovation in healthcare projects, as a means to reach long-term sustainability and gain higher competitive advantage.

Findings:-

The adoption of Lean has triggered and driven change in the culture that has supported many innovations in hospital projects. In both hospital projects; it markedly and sustainably improved the patient access time to the services and reduced the patient waiting time. In the Door-to-Balloon (D2B) time project, the time compliance improved markedly from 58% to 98% and the results were sustainable exceeding international benchmark, and in the outpatient pharmacy Kaizen project; the waiting time dropped from 45-60 minutes to 4-6 minutes on average and was sustainable. Moreover, Lean project management led to a hospital-wide change process, it improved safety and patient satisfaction and supported the hospital culture of empowering frontline caregivers. By examining the model factors, the researchers have recognized the importance of the leadership and management, and employee involvement, often called “champions”, for the success of Lean innovation adoption. The study demonstrated how a Lean project manager have influenced the Lean innovation mechanism, through his championing behavior, by making a continuous commitment for change to Lean at the highest level and changing the culture to drive innovation and maintain employee involvement across all levels. Employee involvement, employee empowerment, employee participation, teamwork, recognition and rewards; all have shown a considerable direct impact on employees’ performances towards a successful diffusion of Lean innovation.

Research limitations/implications:-

The limitations of this study include the fact that the two projects illustrated successful diffusion processes. The inclusion of examples of lesser success would have potentially provided additional insight into the process.

Furthermore, research conducted through a single hospital case study is exposed to the criticism that its results are not generalizable but it has provided a practical approach of obtaining an explanation of a condition and an understanding of the appropriate factors affecting diffusion. An extensive study and analysis is needed to further examine the dynamics of Lean innovation in healthcare projects. The researchers’ future work will address this topic further in view of space limitation in the current paper. In addition, the research conclusions need to be further validated.

Practical implications:-

Based on the case study, the researchers discussed model implications to help foster Lean innovations in healthcare during the execution of the project. The dynamic Lean innovation model presented in this paper has provided the researchers and policy makers with common understanding and insights to nurture Lean innovation in healthcare projects. It is believed that effectiveness and efficiency will improvement throughout the public health system.

Social implications:-

Implementation of Lean innovation in the healthcare sector in UAE is still at a fairly early stage. The two successful projects of the hospital provided in the paper are aligned with the UAE National Innovation Strategy to start a new dynamic phase in the hospital services to deliver new horizons of successful and sustainable innovation. Further implementation of Lean innovation in healthcare projects is warranted. It will make the health service better, such as more responsive and closer to society; by improving patient services and making the hospital more efficient and responsive to patient needs and expectations. In addition, it is considered as a powerful tool that inspires the CSR aspects to behave ethically and contribute to economic sustainable development while improving the quality of life of the people and society. These goals fit well with Lean innovation tool engage employees in identifying and eliminating non-value added activity, particularly when environmental wastes are included. By adding environmental wastes to Lean’s deadly wastes, hospital can control the powerful drivers behind Lean innovation projects to make services more competitive while decreasing environmental wastes and impacts.

Originality/value:-

This paper gives a growing body of research into Lean innovation implementation in the context of project management within healthcare sector. This is the first study developing a specific conceptual model illustrating successful diffusion of Lean innovation in healthcare projects. The conclusions made potential justifications for success factors and valuable practical recommendations for situations required to foster such innovation in public healthcare.