

## Developing a Knowledge-Based Lean Six Sigma Model to Improve Healthcare Leadership Performance

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**Abstract :** Purpose: This paper presents a model of a Knowledge-Based (KB) using Lean Six Sigma ( $L6\sigma$ ) principles to enhance the performance of healthcare leadership. Design/methodology/approach: Using  $L6\sigma$  principles to enhance healthcare leaders' performance needs a pre-assessment of the healthcare organisation's capabilities. The model will be developed using a rule-based approach of KB system. Thus, KB system embeds Gauging Absence of Pre-requisite (GAP) for benchmarking and Analytical Hierarchy Process (AHP) for prioritization. A comprehensive literature review will be covered for the main contents of the model with a typical output of GAP analysis and AHP. Findings: The proposed KB system benchmarks the current position of healthcare leadership with the ideal benchmark one (resulting from extensive evaluation by the KB/GAP/AHP system of international leadership concepts in healthcare environments). Research limitations/implications: Future work includes validating the implementation model in healthcare environments around the world. Originality/value: This paper presents a novel application of a hybrid KB combines of GAP and AHP methodology. It implements  $L6\sigma$  principles to enhance healthcare performance. This approach assists healthcare leaders' decision making to reach performance improvement against a best practice benchmark.

**Keywords :** Lean Six Sigma ( $L6\sigma$ ), Knowledge-Based System (KBS), healthcare leadership, Gauge Absence Prerequisites (GAP), Analytical Hierarchy Process (AHP)

**Conference Title :** ICLSST 2018 : International Conference on Lean Six Sigma Techniques

**Conference Location :** Barcelona, Spain

**Conference Dates :** February 27-28, 2018