

Evidence of Transformational Leadership Attributes in lean Healthcare Implementation Framework

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Abstract: *Purpose: This paper discussed sign of transformational leadership in lean healthcare implementation framework. This study focus on identifying characteristics of transformational leadership practiced by healthcare leaders. Sources: A review was carried using four established databases. This paper assembled analyses and expounded data from empirical papers on lean healthcare implementation frameworks from 2009 to 2018. Selection: Reviewed articles published in English were chose. In identification phase, 142 articles were identified; 81 articles passed the literature screening phase; and 48 articles were eligible for full article review. Finally, 12 articles were included for this study. Data extraction: Papers were considered if they regarded lean healthcare as the improvement methodology and discussed leadership characteristics in the lean implementation journey. Results: Twelve papers were selected for the study. The characteristics of transformational leadership being practised by healthcare leaders in the implementation framework includes charisma, inspiration, intellectual stimulation and individualized consideration. Conclusions: This study highlighted leaders in healthcare sector do practice some form of transformational leadership attributes. The application, however, is still limited and a leader has yet to utilize the whole spectrum of the transformational leadership model.*

Keywords: *Lean, healthcare, implementation, framework, leadership, transformational*

I. INTRODUCTION

In the world of quality improvement, the lean methodology is now no longer foreign (Moraros, Lemstra, & Nwankwo, 2016). First practised and refined in manufacturing environment, the methodology has transcended to other industries including service and healthcare sectors. In the root of lean principles, organization must change their perspective in the sense that the value is viewed from customer perspectives rather than the organization point of view.

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The processes are then continuously improvised by identifying and removing waste and at the ideal state only contain processes that add value to the customer. Swink, Melnyk, Hartley, and Cooper (2017) defined lean system approach as “a philosophy of operations management that emphasizes the minimization of the amount of all the resources (including time) used in the various activities of the enterprise” (p. 285). Since Womack introduced the lean concept to the world in his seminal book in 1990, lean approach has advanced from a production technique to a performance measurement tool used in many organizations in various industries for myriad of work processes (Patri & Suresh, 2018; Womack, J. P., Jones, D. T., & Roos, 1990).

Evidence of lean principles deployment in healthcare setting emerged in 2002. Since then, healthcare organizations appeared to implement lean to improve various processes and service quality (Brandao de Souza, 2009; Patri & Suresh, 2018). Since its inception in healthcare sector, the implementation of lean was not all easy. In close to two decades of lean deployment in healthcare, numerous studies debated the challenges faced by the organizations during the implementation phase (Patri & Suresh, 2018). These debates indicates there could best rings of critical elements out there influencing the success of lean implementation. The factors should be investigated and identified in new studies in this field (Filser, da Silva, & de Oliveira, 2017).

Several studies suggested leadership as the utmost important factor in the success of lean implementation in healthcare. For instance, in a bibliometric analysis, Filser, da Silva, and de Oliveira (2017) proposed that leadership is a crucial component in the lean implementation success. Examples shown by leaders such as attention to quality, involve in solving issues, arrangement of resources, cross-departmental issue resolution are critical to the success of organization transformation. However, it is not distinct in the current literature on leadership characteristics that influence the implementation and sustainability of lean healthcare (van Rossum, Aij, Simons, van der Eng, & ten Have, 2016).

Therefore, this study is aim to independently assess evidence of transformational leadership in the lean healthcare implementation framework. This assessment is achieved by addressing research questions listed below:

RQ1: Are leaders in healthcare sector exhibit characteristics of transformational leadership?

RQ2: Which characteristics of transformational leadership are emphasized and lacking in the healthcare sector?

II. THEORETICAL FRAME OF REFERENCE

Lean implementation framework

Implementation is a specific actions planned to put a process of known elements into practice(Steinfeld et al., 2015). Implementation involves the process of applying or integrating innovations within a certain situation(Moullin, Sabater-Hernández, Fernandez-Llimos, & Benrimoj, 2015). Of late, there have been substantial studies to discover how to effectively implement practice in particular settings (Steinfeld et al., 2015). Studies focusing on implementation has advanced towards use of theoretical approaches for better understanding of how and why implementation produces certain results(Nilsen, 2015).

Researchers often use framework to describe the implementation of certain intervention. The implementation of certain intervention is usually described by researchers using framework. Framework typically represents a structure or outline, comprising of various descriptive classes, for examples concepts, constructs, and the relations between them that are believed to explain certain phenomenon. Frameworks explain empirical phenomena by fitting them into a set of categories(Nilsen, 2015). Frameworks are displayed either in the form of graphical or narrative representation to explain the phenomenon of implementation (Moullin et al., 2015). The term “framework” and “model” are often used interchangeably by researchers. In the context of current study, a model describes “what is” while an implementation framework describes “how to” (Mohd Yusof & Aspinwall, 2000). A good implementation framework should outline what an organization wanted to do and exactly how to do it. A well-defined implementation framework connects concepts and practical application. This means translating theory into practice using systematic ways (Mohd Yusof & Aspinwall, 2000).

Transformational leadership

In an organization, leadership is a fundamental function of management that determine company’s direction and facilitate the organization to achieve its goals. It is also an elemental component for effective management (Steed, 2012). Many studies tribute leadership and management commitment as the most critical success factors in intervention implementation (Nordin, Md Deros, Abd Wahab, & Ab Rahman, 2011). There are several models of exceptional leadership such as transformational and visionary leadership, which emphasis on organizational transformation. Due to rapid changes seen in the business environment, these models are predicted to become even more crucial to organizations (Steed, 2012).

For decades, the model of transformational leadership has been the leading model for elucidating the effectiveness of leader(Hoogeboom & Wilderom, 2019). Based on extensive studies, Bass (1990) outlined four attributes of transformational leadership namely **charisma** (leaders provides vision and sense of mission, instils pride, gains respect and trust); **inspiration** (leaders communicates high expectations, uses symbols to focus efforts, and expresses important purposes in simple ways); **intellectual stimulation** (leaders promotes intelligence, rationality, and

careful problem solving); and **individualized consideration** (leaders gives personal attention, treats each employee individually, coaches, advise). Empirical studies suggest that the transformational leadership model can be helpful in a healthcare environment when implementing the lean approach(Steed, 2012). Transformational leadership is said to happen when leaders widen and uplift the attentions of their employees, create appreciation of employees towards organization’s goals, and when leaders are able to shift employees from just thinking about oneself to betterment of companies(Bass, 1990).

III. METHOD

A systematic review was carried out on established databases namely PubMed, Scopus, Web of Science (WoS) and ProQuest to trace the evidence of transformational leadership practice in lean healthcare implementation framework. The search was performed without restrictions to the year of publication. The searching is using the following keywords: For PubMed, “lean” AND (“healthcare” OR “health care” OR “hospitals”) filled the ‘title’ space while “framework” OR “model” filled the ‘title/abstract’ space. For Scopus database, “lean” AND (“healthcare” OR “health care” OR “hospitals”) used for ‘article title’ while “framework” OR “model” were used for the ‘article title, abstract, keywords’. In addition, ‘document type’ and ‘language’ were restricted to “article or review” and “English” respectively. For WoS, “lean” AND (“healthcare” OR “health care” OR “hospitals”) filled the ‘title’ space while “framework” OR “model” filled the ‘topic’ space. For ProQuest, “lean” AND (“healthcare” OR “health care” OR “hospitals”) used for the ‘document title’ while “framework” OR “model” used for the ‘abstract’. In addition, ‘manuscript type’ and ‘language’ are restricted to “doctoral dissertations” and “English only” respectively.

Articles were included if they discussed implementation framework (as explained in the theoretical frame of reference) relating to lean healthcare. The inclusion criteria were spelled out below:

- Implementation was defined as the process of putting to use or integrating innovations within a setting (Moullin et al., 2015). The selected articles must contain and describe process of implementation or order of activities to be fulfilled when employing the method.
- The articles described frameworks in various stage of implementation, either the stage of ‘operation’ (where the lean healthcare is in use and is in the process of being integrated into routine practice) and/or ‘sustainability’ (the process of maintaining lean healthcare use, capacity and benefits).
- Framework explained in the article are either graphical or narrative representation to describe the implementation process(Moullin et al., 2015).
- Articles used or proposed a framework, model, or theory of lean healthcare implementation, described either explicitly or implicitly.

Articles were excluded if they were:

- Not related to lean healthcare.
- The studies used hybrid quality improvement methods (e.g. Lean Sigma, Lean Six Sigma, Lean Safety, etc.).
- The article is not retrievable.
- The article is a literature review paper.
- The full text of the article is using language other than English.

The abstracts of the paper were first examined to check for the relevancy of the paper according to the inclusion/exclusion criteria. Full texts were acquired and reviewed for papers that met the inclusion criteria.

IV. RESULTS

Identification: A total of 142 peer-reviewed articles were identified from four different databases of which 55 were removed due to duplicates. **Screening:** 87 articles were screened for full text availability and language of full text of which 6 were dropped due to unavailability of the full text and/or the full text language were other than English. From there, abstracts of the 81 articles were vetted and found 33 of them were irrelevant to the research context. **Eligibility:** The full text of 48 articles that passed previous process were eligible for next stage. Upon close examination, 36 articles were skipped due to irrelevant to the research context. **Included:** 12 articles met all the inclusion criteria and included for this study. Fig below shows the process and outcomes of the systematic review. Using the inclusion and exclusion criteria, 22 articles were selected for tracing the evidence of transformational leadership in lean healthcare implementation frameworks.

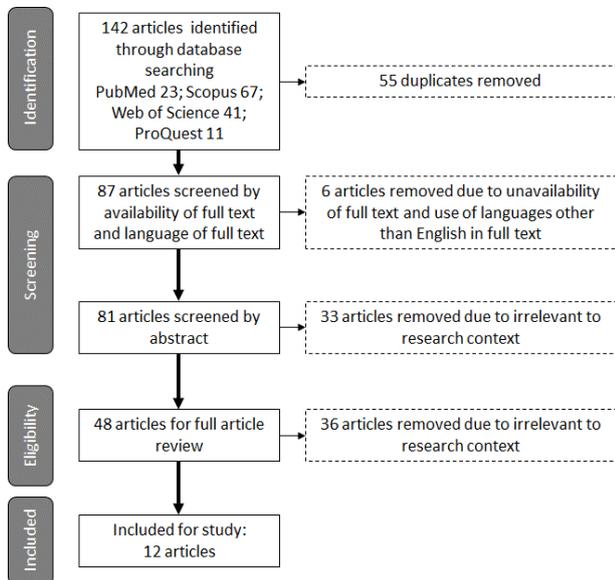


Fig. 1 Flow diagram of the included studies

In order to critically analyse the leadership characteristics manifested in the 12 selected articles, the leadership characteristics discussed by each articles, either explicitly or implicitly, were identified and map to the characteristics of transformational leadership as listed in Table. As described in the previous section, Bass (1990) outlined four characteristics of transformational leadership namely charisma, inspiration, intellectual stimulation and individualized consideration.

Table. 1 Mapping of leadership characteristics found in the selected articles to the transformational leadership characteristics

Last name of first author	Publication Year	Characteristics of transformational leadership (Bass, 1990)			
		Charisma	Inspiration	Intellectual	Individual
Snyder	2009	√	√	√	
Deans	2011			√	
Chadha	2012			√	
Steed	2012	√	√	√	
Ulhassan	2013	√			
Dammand	2014	√			
Harrison	2016	√	√		
Roszell	2016			√	√
Abuhejleh	2016	√	√		
Eriksson	2016	√	√		
Narayanamurthy	2018	√			√
Patri	2018		√		

The 12 articles included in this study, published from 2009 until 2018, discussed the lean implementation framework in healthcare setting. It is interesting to take note that half of the articles (6 out of 12) reported only one characteristics of transformational leadership (Deans & Wade, 2011; Chadha, Singh, & Kalra, 2012; Ulhassan et al., 2013; Dammand, Hørlyck, Jacobsen, Lueg, & Röck, 2014; Narayanamurthy, Gurumurthy, Subramanian, & Moser, 2018; Patri & Suresh, 2018). Of the 12 articles, four contained two transformational leadership characteristics (Harrison et al., 2016; Roszell & Lynn, 2016; Abuhejleh, Dulaimi, & Ellahham, 2016; Eriksson, Holden, Williamsson, & Dellve, 2016). Only two articles contained three transformational leadership characteristics (Snyder & McDermott, 2009; Steed, 2012) and unfortunately none of the selected articles in this review exhibited all of the transformational leadership characteristics. This finding is summarized in Table 2 below.

Table. 2 Number of articles discussing transformational leadership characteristics

Transformational leadership characteristics reported by the articles	Number of articles	Percentage (%)
One characteristic	6	50%
Two characteristics	4	33.3%
Three characteristics	2	16.7%
All four characteristics	0	0

On the other hand, looking from the perspective of the transformational leadership characteristics, charisma is the top characteristics portrayed by leaders in healthcare. Eight articles reported that the leaders were having and utilizing this trait to initiate and manage the implementation of lean healthcare in their organizations (Snyder & McDermott, 2009; Steed, 2012; Ulhassan et al., 2013; Dammand et al., 2014; Harrison et al., 2016; Abuhejleh et al., 2016; Eriksson et al., 2016; Narayanamurthy et al., 2018). Abuhejleh et al.

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(2016) advocated the leadership and management to play role as ‘champions’ to ensure success of Lean acceptance. The ability of a leader to inspire employee towards organisational excellence and crafted strategy that suits company’s vision is the example of charisma characteristics displayed by leaders in healthcare.

Evidence of inspiration characteristics being practiced by leaders in healthcare can also be seen in the literature. Six articles narrated that leaders used inspiration in order to manage lean activities (Snyder & McDermott, 2009; Steed, 2012; Harrison et al., 2016; Abuhejleh et al., 2016; Eriksson et al., 2016; Patri & Suresh, 2018). For examples, in an investigation to find interrelation between leadership and outcomes of lean implementation, Steed (2012) discerned that leaders should play the role of champion so that the “what”, “why,” and “how” relating to lean implementation are imparted to the relevant stakeholders in a proper manner.

On the other hand, five articles provided indication that leaders in healthcare practiced intellectual stimulation in the field (Snyder & McDermott, 2009; Deans & Wade, 2011; Chadha et al., 2012; Steed, 2012; Roszell & Lynn, 2016). For instance, Harrison et al. (2016) observed that in several organizations, member of top management held executive sponsors positions which indicates direct involvement in the lean deployment. The role allowed the senior leaders to eradicate obstacles to the project, observed work progress and group focus on goals.

Lastly, characteristics of individualized consideration was also evident in the literature (Roszell & Lynn, 2016; Narayanamurthy et al., 2018) albeit only two articles discussing it. One of the literature talking about this characteristics was study by Narayanamurthy et al. (2018). The study highlighted that leaders to ensure employee job security during the lean healthcare implementation, whereby there should not be fear among the employee for being terminated in the process efficiency improvement exercise. The same study also stressed that the leaders should also ensure there is customized training for different group of employees.

Radar chart shown in **Fig** summarized the number of articles quoting each transformational leadership characteristics as discussed in previous paragraphs.

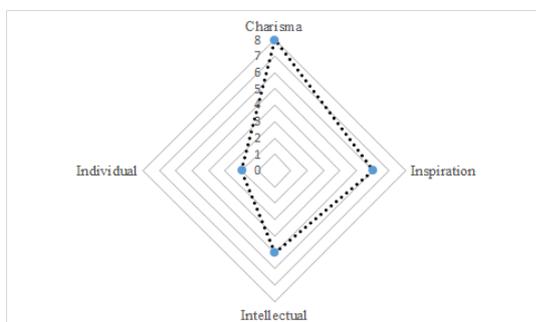


Fig. 2 Number of articles quoting each transformational leadership characteristics

Discussion and practical recommendations

At a glance, lean methodology appears as the approach that produced favourable outcomes. However, its deployment in healthcare were sometimes debatable and the success doubted (Moraros et al., 2016). Even the practitioner

and researchers seems to now know regarding lean in healthcare, particularly its principles and tools, there are nonetheless issues that need to be investigated further (D’Andreamatteo, Ianni, Lega, & Sargiacomo, 2015) – one of them could be the leadership.

In healthcare organization transformation effort, leadership is the most crucial element to successfully implement the lean approach (Steed, 2012). As can be seen from the result of this review, the practice of transformational leadership by the healthcare leaders during the implementation of lean healthcare are still limited and healthcare leaders has yet to make use of the full spectrum of the transformational leadership characteristics. Of the four characteristics outlined by Bass (1990), two of them (charisma and inspiration) were frequently applied by leaders in the healthcare sector while the other two (intellectual stimulation and individualized consideration) were not as much. Transformational leadership can be learned, and it should be the subject of management training and development (Bass, 1990). For example, research has shown that leaders at all levels can be trained to be charismatic in both verbal and nonverbal performance (Bass, 1990).

Particularly, the following could be some practical actions leaders can make in order to address the less practiced characteristics of the transformational leadership:

a) The senior management in healthcare could have regular planned meeting with the lean implementation team. One of the meeting agenda should include “problems need management attention”. Under this agenda, the taskforce member could highlight to the management the issues or barriers that hindering the implementation of lean that cannot be solved at the lower level. For example, issues involving cross-department which require higher level management intervention. The taskforce member could also ask management for next course of actions should they face with “roadblocks”.

b) Senior management is encouraged to learn about lean practice outside of their organizations by visiting external

Organizations that apply lean. The external organizations should not be limited to healthcare industry – it is useful for leaders to learn from different industries in order to get fresh ideas. The new ideas can then be shared and reviewed with team members.

c) Leaders especially at the senior position is highly recommended to carry out management by walking around (MBWA). It refers to a practice of management which involves managers wandering around, in an unscheduled manner (as opposed to formal visits), through the workplace to talk to frontline employees, or to check on the status of ongoing improvement. Candid conversation and listening to impromptu feedback from the frontline employees could instil employee trust to the management. Some studies has found that quality improvement programs that practised MBWA, can have a favourable impact on the organizational outcomes (Tucker, A. L., & Singer, 2015). By practicing MBWA, frontline employees would see senior leaders as giving personal attention and treat employee individually.

d) Senior leaders to hold periodic “coffee talk” session with the frontline employees without the presence of the employees’ supervisors (or first level managers). This is one of the management technique practiced by leaders in the top Fortune 500 companies to have casual conversation with the employees. With the absence of the supervisors, employees usually could talk more freely and openly on issues they are facing in their work.

V. CONCLUSION

This paper aims to trace the evidence of transformational leadership in lean healthcare implementation framework and identify characteristics that are emphasized and lacking in the healthcare sector. This paper contributes to a better understanding of how transformational leadership is being practised by leaders in healthcare during the lean implementation that currently not available in the existing literature.

It appears in the literature that leaders in healthcare sector do practice some form of transformational leadership characteristics. There were evidences that the transformational leadership model being practiced in the field. However, the analysis of the literature also tell us that the application of the model is still limited to certain characteristics and healthcare leaders has yet to utilize the whole spectrum of the transformational leadership model. More effort need to be done by the senior management or authority in healthcare sector to expose healthcare leaders to management models such as transformational leadership for better implementation of lean healthcare.

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