

# **Transformational leadership in Supply Chain Management**

Huaqing Wang<sup>1</sup> Juan R. Cruz<sup>2</sup>,

1. School of Business, Emporia State University (USA)

2. School of Education, St. Thomas University (USA)

## **Abstract**

The intent of this research is to present a model that investigates the relationship of the Leadership style against the Lean Supply Chain Culture and its impact in Supply Chain Integration as measured by Company Performance and Customer Service effectiveness.

**Key words:** transformational leadership, supply chain management

## ***1. Introduction***

Transformational leadership is defined as a leadership approach that causes change in individuals and social systems. In its ideal form, it creates valuable and positive change in the followers with the end goal of developing followers into leaders (Mena, Hoek, & Christopher, 2014). Transforming leadership, nevertheless, is a process in which leaders and followers help each other to advance to a higher level of morale and motivation and creates significant change in the life of people and organizations (Bass & Riggio, 2006).

Lean Supply Chain Management is a team-based approach to continuous improvement focused on eliminating non-value added activities from the viewpoint of the customer by motivating others in the organization to make changes that optimize current performance. It is being applied to the supply chain and logistics management area in recent years and it represents a new way of thinking. One of the first books that attempts to explore the topic of Lean Tools and Lean Methodology for Supply Chain Managers is “Lean Supply Chain & Logistics Management” by Paul Myerson (Myerson, 2012). It explains how to effectively use Lean Tools as a strategy to realize significant improvements in company performance and customer service. Lean tools embedded in lean transformation processes are a powerful way to make work more efficient (Machado & Leitner, 2010).

There is a lack of understanding among scholars and leaders about which Lean Supply Chain Management leadership specific behaviors practitioners employ to drive the success of companies. Its success is measured in terms of an organization's accomplishment toward its own goals.

The purpose of this research is to present a model that investigates the relationship of the leadership style against the Lean Supply Chain Culture in middle and top management roles and its impact in company performance and customer service.

## ***2. Literature Review***

Since the beginning of the 21st century companies have been facing growing competition combined with dramatic changes on the global market as reflected in reduced product lifecycles, increased market volatility, unpredictable demand and unstable supplies. Customer requirements and growth in their expectations are the basis for the turbulent market environment formation (Huxel & Gelashvili, 2014). Customer's desires increase are reflected in demanding better products and services in the shortest possible time and at low prices (Huxel & Gelashvili, 2014). In other words, companies must be able to increase their flexibility in order to stay competitive and respond to market changes swiftly (Huxel & Gelashvili, 2014). As a result of increasing global business competition, many organizations are looking for ways to gain competitive advantage. Competition has shifted from company orientation to supply chain orientation; thus, supply chain improvement has become a necessity for survival (Ugochukwu, Engstrom, & Langstrand, 2012).

Supply Chain encompasses the activities that get raw materials and subassemblies into manufacturing operation (Russell & Taylor, 2006). It is the complex system of purchasing (procurement), manufacturing, distribution and sales functions (Christopher, 2001). While Supply Chain Management is the management of all activities that facilitate the fulfillment of a customer order for a manufactured good to achieve satisfied customers at a reasonable cost (Collier & Evans, 2009). Supply chain management professionals coordinate activities leading to reduced costs, improved delivery, and improved quality of purchased items (James & Mbang, 2012).

Supply chains are seen as value chains that require collaborations with different functions inside the company as well as strong partnerships with external organizations (Whitten, Green, &

Zelbst, 2012). Supply Chain Management and Logistics operations are primarily people driven and labor intensive.

People are involved at every step from viewing a new order placed, to instructing the warehouse crew to make the shipment ready for transportation, to preparing shipment and billing documentation, to actual transportation (G&D Integrated, 2015). Highly skilled and highly trained employees, whose performance level is closely monitored and capabilities duly utilized for continuous process optimization are imperative for the success of a business enterprise (G&D Integrated, 2015).

Since supply chain roles are more demanding, supply chain professionals' (i.e. executives, managers, individual contributors and consultants) educational level has to be more rigorous and systematic; inconsistencies in regards procedures and methodologies would create complications performing the supply chain roles. In order to manage those challenges related to delivering processes that reduce total cost of ownership and increase revenue, supply chain professionals would have to embrace a lean culture.

The growth and recognition of the Lean Six Sigma methodology in the supply chain field has led to the need for practitioners to have more exposure in this area. Researchers increasingly propose the implementation of lean in the supply chain as a way to achieve the required competitive advantage (Ugochukwu, et al., 2012). Additionally, Lean Six Sigma brings financial advantages, benefits for the customers, for the employees as well as quality improvement (Dumiltrescu & Dumitrache, 2011). The development of Lean Manufacturing and Six Sigma courses at University level is a direct response from companies seeking Lean and Six Sigma experienced graduates and professionals.

Components of lean manufacturing are on the rise among manufacturing and distribution companies, with more than 71% utilizing a 5S methodology, Kaizen by 60.2% of employers, KanBan with 38.3% and Six Sigma is utilized by 63.3% of employers (Bond, 2015). Additionally, Takt-Time Analysis by 22.7% and Value Stream Mapping by 46% of employers (Bond, 2015).

In 2012, Mehta RK et al studied the issues and challenges pertaining to Lean Manufacturing (LM) practices in modern day organizations, with special orientation to gear industries. The study reflected that 25% of employees consider that organization fail to recognize the financial benefits of LM and 10% employees perceive less and lack of support from top management to

facilitate the implementation of LM. The study also reflected that 10% of the employees think there is a gap in application of theory and practice of LM and 10% employees view that lack of knowledge and awareness to implement LM. Additionally, 10% employees express that budgeting constant are also obstacles in the implementation of Lean Manufacturing System (Rahul & Kaler, 2013).

Most metrics are used to measure the results, and control the employee rather than being a tool with the employee themselves to measure their own work progress. For example, Management by Objectives (MBO), first presented by Drucker in 1954 has been the traditional process with a series of metrics that measure key performance and focuses on specific results on the business needs. This approach involves setting some objectives along with an incentive program in order to achieve the business goals (Ahmed, 2013). The MBO approach is still being taught in many business schools making the lean journey harder to adopt. The MBO method may have worked in the past five decades when the market condition was different and objectives were imposed. Now with the world events necessitating the reduction in wastes and maximizing the efficiency, the demand for more improvement and employee engagement has been increased.

The implementation of “Lean Principles” has enabled manufacturing firms across the globe to be more customer-focused, more flexible and profitable, but there are still significant efforts from companies to adopting a lean supply chain system that will improve efficiency and reduce costs. A study conducted by Manrodt, Vitasek and Thompson (2008) shows that progress in companies adopting Lean philosophies in the supply chain has been slow. The research team suggests the fact that companies are starting to implement and practice Lean concepts in the supply chain. However, they also remark that the obstacles to implementing a Lean supply chain continues. Nevertheless an improvement from year 2005 has been observed (Manrodt, et al., 2008).

Details of the study are presented below in table 1.

Table 1: Lean Practices in the Supply Chain, Manrodt, Vitasek, Thompson, 2008.

<b><u>Attribute</u></b>	<b><u>2005</u></b>	<b><u>2008</u></b>
Implementation of Lean	25%	29.5%
Managing Demand Signal	33.30%	39.50%
Demand Collaboration	23.60%	27.80%

Waste Reduction Efforts	19.90%	25.00%
Value Added Activities	34.2%	33%
Planning & Production Process Standardization	19.20%	28.40%
Data standards/data mapping	17.90%	27.50%
View of teams	24.60%	30.10%
Industry Product Standards	26.80%	31.30%

The concept of Lean Supply Chain Management is practically new. It has only been relevant in the past four years after gradually the Lean Methodology has moved from manufacturing to other processes in the supply chain, including logistics (Myerson, 2012). More research is still needed to understand the true results about the leadership behaviors that lead to the most successful Lean Supply Chain practitioners.

Transformational leadership, conversely, is the process through which leaders and followers engage in a way that raises both of them to higher levels of motivation and morality resulting in a relationship of mutual stimulation and elevation that may convert followers to leaders and leaders to moral agents (Alsayed, Motaghi, & Osman, 2012, Wang et al. 2016, Singh et al. 2017). Transformational leadership has been linked to positive organizational outcomes and refers to a process focusing on the exchange between leaders and followers by motivating followers' attitudes. It is the process of building employee loyalty to meet the organizational visions, missions, strategies and objectives by the leaders (Alsayed et al. 2012, Wen et al. 2018).

Although, there have been studies finding positive relationships between transformational leadership and follower performance, there is a lack of studies showing the relationship within Lean Supply Chain Management. In the article, “The Need for Transformational Leaders in Procurement” Mena, Remko and Christopher (2014), discuss the active engagement with all functions of the organization in shaping the strategy and representing the entire supply chain in strategic conversations of procurement leaders (a subset of the supply chain management functions). They state that Supply Chain Procurement Leaders need to move from a transactional approach to a transformational approach to leadership as a requirement towards formulating strategy in sync with other functions and organizations (Mena et al. 2014, Wang 2014, Singh et al. 2017).

Transformational leaders display four critical factors or behaviors: they communicate a high level of belief and confidence in the group's ability to achieve goals, they effectively model the desired behaviors for premium performance, they show concern for people, and they promote cooperation (Olsen, 2011). Transformational leadership is a key of change, through its factors of influence (e.g. idealized influence, intellectual stimulation, inspirational motivation and individual consideration).

### ***3. Research Question and Methodology***

An Examination of the Lean Leadership Practices within the Supply Chain Management discipline. This study will address the following questions:

Research question 1: Will supply chain professionals with lean supply chain education achieve higher scores in the Multifactor Leadership Questionnaire than supply chain professionals who are not certified or skilled in Lean Six Sigma/Lean Manufacturing methodologies?

Research question 2: Do supply chain professionals with lean supply chain culture who achieve higher scores on the Multifactor Leadership Questionnaire (MLQ) demonstrate better supply chain integration; resulting in greater achievement in customer service and company performance?

Research question 3: Is there any relationship between Lean Supply Chain Practitioners proficiency level and leadership style?

### ***Research Hypothesis***

- Ho: There is no association between supply chain professionals with lean supply chain culture and transformational leadership behaviors.  
Ha: There is an association between supply chain professionals with lean supply chain culture and transformational leadership behaviors.
- Ho: There is no association between supply chain professionals with lean supply chain culture who achieve higher scores on the MLQ with higher achievement in customer service and company performance.

- Ha: There is association between supply chain professionals with lean supply chain culture who achieve higher scores on the MLQ with higher achievement in customer service and company performance.
- Ho. There is no association between the level of lean culture and higher scores on MLQ.
- Ha. There is association between the level of lean culture and higher scores on MLQ.

### ***Research Design***

The overall purpose of this study is to explore the results of lean culture and leadership styles within the Supply Chain Management discipline. This study will provide evidence of the motivations SCM community of practice has in embracing a Lean Six Sigma (LSS) culture. This study would be looking for the qualities and/or characteristics of the supply chain professional (participants) and the dynamics that occurs in organizations integrating the supply chain. The study will employ a multiple surveys design such as questionnaires, interviews and surveys.

This study will include questionnaires that can measure knowledge, attitude, beliefs and intention with a scale of frequency. The questionnaires will include a series of written questions for participants to answers with multiple choice questions which can ensure relevance to the study. The leadership style section is based on a study conducted by Avolio and Bass in 1985 on leadership style. The Multifactor Leadership Questionnaire (MLQ) is used to measure leadership characteristics. The study consists of three sections that measure different leadership styles: transformational, transactional and laissez-faire. The current form (Bass & Avolio, 2004) consists of 45 questions which measure seven transformational leadership factors. A high score on the MLQ indicates existence of leadership, while a low score indicates absence of leadership.

The survey method is also appropriate on this study, especially since the data collection for this research involves online surveys. The researcher will employ an inductive survey approach to analyze empirical data to develop theory. Interviews conducted will last one to two hours and will be performed either in participants' workplace and or by phone. Audio-recording and notes will be taken by the researcher. Any interviews would have specific set of pre-determined questions. Middle and Top Supply Chain Management participants will be identified with the assistance of official industrial and academic databases from various regions.

The Lean Supply Chain Culture will be measured by the level of lean certification the SCP would have from an integration standpoint and application of lean principles, methods and/or transformation of a business or organization with focus on integration; a Green Belt, Black Belt, Master Black Belt or a Lean Leader, Lean Bronze or Lean Gold certification indicates existence (high score) of Lean Culture. Absence of lean certifications represent a low score.

Before the data is analyzed, the researcher will transcribe all interviews, observations, documents, journal entries and field notes. The researcher will create electronic files for the interviews, surveys and questionnaires entries. All information is confidential and will be summarized and evaluated at an aggregate level across companies. For this study, the researcher will follow mixed merging findings procedure. This method allows the researcher to make generalizations about the study (Cameron, 2011).

### ***Theoretical Framework***

The researcher will investigate an effective model of change by evaluating the relationship between supply chain leadership and the successful action plan accomplishments within a lean six sigma/lean manufacturing framework. The authentic leadership characteristics identifies five different dimensions: purpose, values, relationship, self-discipline and heart. Authentic leaders understand their own values and behave toward others based on these values (Northhouse, 2007).

Transformational leaders' type are effective in a variety of settings, including the day to day leadership of the organization. Their popularity might be due to their emphasis on intrinsic motivation and follower development, which fits the needs of today's work groups needing to be inspired and empowered to succeed in times of uncertainty (Northhouse, 2007).

Transformational leaders express high expectations, provide individualized development, articulate a compelling collective vision, and achieve extraordinary results (Bass & Riggio, 2006). Versed Supply Chain Professionals work alongside other members of the operations as a team. This presents a natural theoretical link between Versed Supply Chain Professionals and transformational leadership within LSS/LM context.

### ***Assumptions Inherent to the Study***

Several assumptions are made on this study. First, the term transformational leadership is associated with driving positive organizational change. Second, Lean Six Sigma/Lean Manufacturing Versed Supply Chain Professionals as well as Lean Supply Chain Professionals are those supply chain professionals with proven working knowledge and track record with the methodologies used in Lean Six Sigma and Lean for achieving, sustaining and maximizing business success, they may possess certifications in the field of study. Third, the Multifactor Leadership Questionnaire is an acceptable measure of transformational leadership behaviors across organizations.

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