

Leadership Role in Creating Lean Culture

Syed Azuan Syed Ahmad & Wan Khairuzzaman Wan Ismail²
IPN Education Group, 40300 Shah Alam, Selangor, Malaysia

²International Business School, UTM KL Campus, Kuala Lumpur, Malaysia

Abstract: Objectives :The purpose of this paper is to explore the leadership role in building lean culture. Theoretical Background/Previous Practice: Many researchers view lean as a general system to improve the profitability of manufacturing. However, there exists discontent in implementing lean manufacturing as reports claim a low success rate in implementing lean. Lean manufacturing has been extensively studied in the automobile industry but some researchers attribute the lack of transportability into other industries as one of the reasons lean has not been implemented more successfully. Some researchers believe that creating a particular culture is needed to implement lean while others discuss the importance of leadership as the missing link to successfully implementing lean. Approach/Methods: This conceptual paper builds on major sources of the lean manufacturing community including lean manufacturing journals, conference and central journal/conference databases. Forward and backward searches additionally deepen the analysis. Finally, a model of leadership role in lean culture is developed. Results/Insights: The results of the literature review provide evidence that leadership role toward building lean culture is an under researched topic in lean manufacturing. A framework will help further understanding on leadership role in lean culture. Implications: The framework provides an orientation for managerial practice. It helps identify dimensions of possible conflicts based on lean culture aspects. It thus aims at raising awareness on potentially neglected leadership factors.

Key words: *Lean manufacturing, culture, lean culture*

INTRODUCTION

A lean culture is where all employees participate in activities to reduce business waste. The definition of a lean culture probably varies by company and is dependent upon how they define lean. It should consist of beliefs and behaviours of employees who understand their company goals and objectives and their importance, understand the purposes of lean improvements, have the necessary lean tools and techniques and are then given reasonably free hand to do so on an ongoing basis. Companies that have successfully created a lean culture consistently realize: more innovative, team-directed solutions, lower employee turnover, better success at sustaining improvements and greater numbers of improvement actions. In order to have strong and solid lean culture it must include two key principles, which are “continuous improvement” and “respect for people” [1][2].

Leadership on other hand is very important in lean transformation. Lean is not something can engineer or buy over the counter. When done right lean change the way we think, talk, see, act and react. It is a battle for people minds and hearts and such battle requires leadership. By definition, leadership requires leading people somewhere in this case creating lean culture where everybody involved in lean transformation has a same goal and vision to eliminate waste and create value for the end user [1][3]. In lean transformation, leadership role is normally been given to senior manager level [4]. Unfortunately, most senior managers currently understand, and practice leans as a set of tools – simple add-ons to conventional manufacturing practices and also views lean as a way to reduce labour costs, typically through layoffs [5][6][7].

For example, most senior managers implement only “continuous improvement,” and do not implement both “continuous improvement” and “respect for people”. If they see it at all, “respect

for people” is incorrectly understood as adding cost, when in fact, it reduces costs [8][9]. They forgot that the “respect for people” principle is the key to making the Lean manufacturing work [10][2][9]. As a result, most businesses and their end-use customers fail to realize the benefits of the Lean manufacturing [11][12][13][9][14][15]. In effect, they are lost in transformation.

Therefore, the purpose of this paper is to review the leadership role in lean thinking, which will ultimately help in implementing lean manufacturing. The paper also presented a conceptual framework of leadership regarding its role in creating lean culture.

2.0 Literature review

Organizational can invest a lot of time and money in lean efforts but if people eventually revert to their old ways, the gain will not be sustained over time and improvement fails. To truly transform into lean manufacturing, the company lean culture must be addressed. Culture is not an ambiguous term. It is a key for improvement. Two main pillars of lean culture are “respect for people” and “continuous improvement ” which will be discussed in this literature and how the leadership role in creating or supporting lean culture throughout the lean transformation will be examined so that how far the relationship between leadership and lean culture is true.

There is growing support in lean and other continuous-improvement philosophies that leadership is needed to support lean implementation

[16][17][18][19][4][20][21][22][23][24]. To support the above statement, Alavi [25] iterated that in order to implement the concept of lean manufacturing successfully, many researchers emphasized commitment by top management, and companies should utilize strong leadership capability to exhibit excellent project management styles. In essence, these qualities would facilitate the integration of all infrastructures within an organization through strong leadership and management vision and strategy. Good leadership ultimately promotes effective skills and knowledge enhancement among its workforce and minimizes the non – value activities in order to eliminate the wastes. Managers should also work to create interest in the implementation and communicate the change to everyone within the organization [26], specifically; the needed information related to a worker in shop floor should be updated respectfully.

The change from a traditional manufacturing system to lean manufacturing is not an easy task. Achanga [16] suggest that the success of lean manufacturing implementation depend on four critical factors: leadership and management; finance; skills and expertise; and supportive organizational culture of the organization. This support the study by Boyer [17] that investment in manufacturing infrastructure such as quality leadership, group problem solving, training and worker empowerment is the critical stepping stones towards successful lean manufacturing. Besides that a case study on two successful companies in sustaining change towards lean manufacturing by [27] found that management commitment, communication, workforce empowerment and ownership improvement through a methodical lean education system and encouragement, and developments of lean culture are essential for sustaining change towards leanness.

Lean manufacturing is a human-based system where people were involved with continuous improvements, and the foundation for the system was leadership and empowerment through education and training. To have success with such a change process the fourth TQM principle – leadership – must also be applied [28]. Companies that succeed with implementing Lean Manufacturing principles have two things in common: strong leadership from the top and a willingness to change the organization’s culture [29]. Most leadership in Lean Manufacturing, specifically empowering employees, appears to be a critical characteristic for successful lean implementations [30].

Lean culture is needed to cause lean thinking in all actions managers will take. Undeniably, as mentioned by Emiliani [31] and liker [32]), lean requires a long – term commitment. A medium – sized company would need a minimum of three to five years to start pursuing the lean philosophy . Mader [33] emphasizes the need for strong top management leadership in the implementation process. Strong leadership is essential for the success of this initiative and also to communicate this idea. Convis [34] adds that senior managers be involved in day-to- day improvements in operations. Tempel and Holländer [35] add that top management presence and availability on the shop floor are one of the most critical points during the lean rollout. Therefore, a lean culture is characterised by emphasis on people first, trust, strong customer orientation and the joint shop floor. It can be seen that cultural and leadership aspects play a far more important role than the lean tools itself. The “respect for people” principle embodies leadership behaviours and business practices that must be consistent with efforts to eliminate waste and create value for end-use customers [10][36][9].

The barriers to lean implementation could be overcome with upfront planning, transformational leadership, excellent communication, identification and sharing of the best practice [37]. Referring to the transformational leadership, Burns [38] has proposed different leadership styles that describe the different stages in a transformation process: transformational and transactional leadership styles. Bass' [39] research concluded that transformational leadership can achieve better results than transactional leadership, because employees would put extraordinary effort in their work.

Bass and Avolio [40] explained that transformational leaders changed organizational cultures, whereas transactional leaders work inside a predefined culture. They also described that there is a constant interplay between culture and leadership, which leads to the conclusion that to implement a lean culture needs a lean-supportive or a lean-minded leadership team. This finding concludes that implementing a lean culture needs the support of a transformational leader at the top of the organization, but that to sustain a newly implemented culture; transactional leadership is also needed. Schein [41] supported Bass' idea that leaders must create a learning culture. Schein argued that because the future will be more complex, faster, and more diverse, leaders need to continuously learn and adapt to this ever-changing environment as well as needing to foster a teaching organization.

Based on the literature review it can be concluded leadership is key to implementing lean manufacturing. This leads to a proposal that leadership needs to support lean culture for a transformation to be successful and more importantly to make sure that the implementation is realized. Most of the literature review mentioned about the importance of leadership, but none of them discussed the leadership role toward lean culture. The literature review also concludes that the leader of the organization has to support lean implementation and has to have strong transformational-leadership traits.

3.0 Methodology and framework

The role of leadership in supporting lean implementation cannot be denied. For a successful transformation, it needed strong leadership who will ensure that all activities set at the early stage are executed as planned. Leadership also promotes an effective skill among worker, and this new lean knowledge needs to be support and guide by a good leadership. By doing this all the workforce will follow the same direction to minimize non added value activities and eliminate waste.

Empowerment among workers must be promoted at all level. By empowering, leadership role is not

exclusive for the top or middle management only. Empowering employees is one of the critical success factors for lean implementation. This can be done by education and consistent training. Willingness to change from a traditional manufacturing system to lean manufacturing is essential for top management. Senior managers must be willing to be involved in day to day process improvement. Their presence in the shop floor will set leadership by example. Therefore, workforce will see any improvement done by them as being valued and appreciated by the top management.

Creating a lean culture in a lean organization is crucial in a lean transformation process. Supportive lean culture from strong leadership is needed for the success of this lean initiative. Basically lean culture is emphasis on people first so that leadership and cultural aspects must be concurrently set up during or creating lean culture among the workforce. During the transformation period, there are a lot of barriers, which are if not handle it properly all the planning will be backsliding. Lean transformation needs to have transformational leadership style to support lean culture. Transformational leaders in organizations develop trust and confidence in their followers: such leaders are more interested in transformation of organizations, situations, and people. Transformational leaders use inspiration to motivate their followers; such leaders "transcend self-interest for the sake of the organization". Burns [38] described transformational leadership as an engagement between a leader and a follower based on an increased level of motivation and morality.

Based on above arguments, the authors suggest a framework on the leadership role in creating lean culture. The development of the model primarily builds on the human factor and continuous improvement which are the proxy for creating lean culture. Under this framework, the general assumption is that leadership plays an important role in creating lean culture during implementation of lean manufacturing.

As shown in Fig. 1, before a lean culture can be created, organizations must select leaders. As we know that Toyota has successfully implemented this lean manufacturing philosophy and the word lean basically create based on the Toyota Production System. When Toyota sends a contingent of Japanese coordinators to other

countries to start up operations, they are looking for leaders or champions who are not merely managers. The Toyota way is designed to cultivate leaders. Pull out leaders at any point and the system will resume decaying. Since lean is a transformation process, transformational leadership style and thoughtful leadership as adapted by Toyota [2] must-have for the selected leader. As a mentioned earlier two main pillars for lean culture which are respects for people and continuous improvement, leader needs to align their way of leadership toward this two. There are five

leadership moves, five essential actions a leader can perform to help provide leadership on creating or supporting lean culture; a leader must be a teacher, build tension not stress, eliminate fear and comfort, lead through visible participation not proclamation and build lean into personal practice.

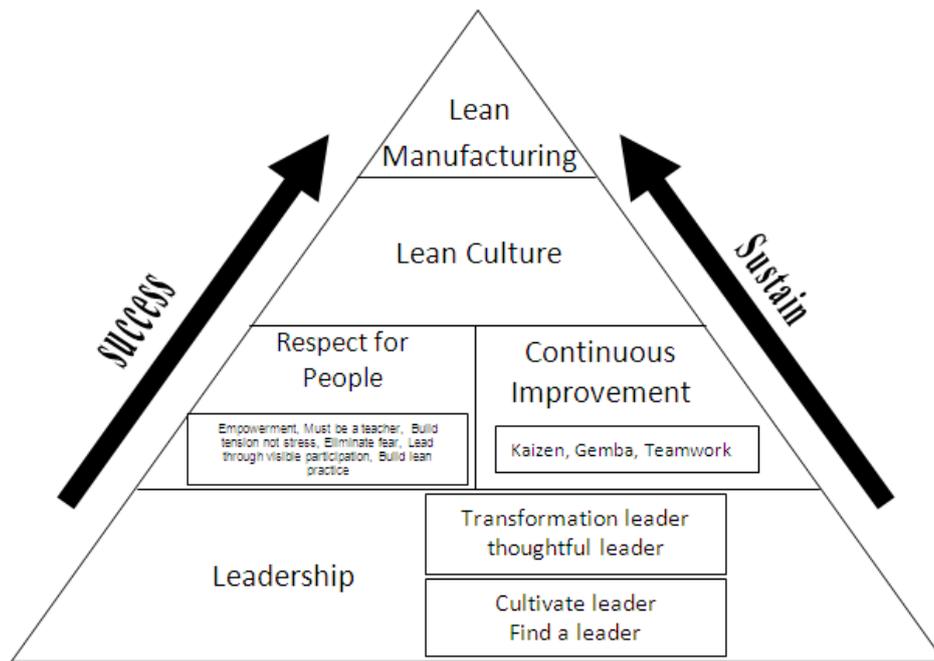


Fig. 1 Leadership role framework toward creating lean culture

Besides that leadership need to have other elements such as challenge, kaizen, Genba walk, respect and teamwork. Back to the Toyota servant leadership principle, where the team members are placed at the top and the top management at the bottom in the upside-down pyramid. Team members are the added values in the values stream. However, as a leader they need to support those who are most actively adding value to the stream and therefore, the closer to the bottom of the pyramid, the more people responsible for supporting. Based on the proposed model, leadership is placed at the bottom of principle this simply because the leadership act as a strong foundation in order to support lean culture thought out the lean journey. Leader needs to recognize which element needs to segregate to the respect of people and continuous improvement

so that the lean culture can be sustained and give a greater result in lean transformation or implementation process and importantly for its sustainability.

4.0 Conclusion

Leadership is critical in lean transformation. This is because lean is not something that we can engineer. Lean culture needs a support from the lean minded leadership in order to make it happen and accept the fact that without the right culture, any attempt to make lean transformation is futile. People often understand lean with the tools that are used to create effective and standardization processes. However, implementing tools represents at most 20 percent of the effort in lean transformation. The other 80 percent of the effort is expended on changing leader's practices and behaviour [4].

Sustained lean success requires a change of mindset and behaviour among leadership and then gradually throughout the organization. Leaders develop culture so companies must invest in creating leaders who carry the lean culture of the company in their thoughts, words and actions. Companies or organization wants to implement lean should start with leadership issue. The

proposed model which stresses that leadership must be a foundation for lean manufacturing implementation to success. By doing these companies should groom their leader at any level to support the lean culture. Issue of sustainability is main the goal in lean transformation. This model also can give a direction to the lean leader toward inculcate lean culture among the employee.

REFERENCES

- [1] Ohno, T. (1988), *Toyota Production System*, Productivity Press, Portland, OR
- [2] Toyota (2001), *The Toyota Way 2001*, internal document, April, Toyota Motor Corporation, Toyota City, Nagoya.
- [3] Womack, J. and Jones, D. (1996), *Lean Thinking*, Simon & Schuster, New York, NY.
- [4] Mann, D. (2009). The missing link: Lean leadership. *Frontiers of Health Services Management*, 26(1), 15–26.
- [5] Post, C. and Slaughter, J. (2000), “Lean production: why work is worse than ever, and what’s the alternative?”, a Solidarity working paper, available at: solidarity.igc.org/LeanProduction.html (accessed 2 June 2004).
- [6] Varnon, R. (2003), “Job cuts imminent at Stratford firm”, *Connecticut Post*, 13 May.
- [7] Womack, J. (2003), “Is Lean mean?”, e-mail message to the Lean community, Lean Enterprise Institute, Brookline, MA, 2 December, available at: www.lean.org/Lean/Community/Registered/ShowEmail.cfm?JimsEmailId¼32 (accessed 8 May 2004).
- [8] Johnson, H. and Broms, A. (2000), *Profit beyond Measure*, The Free Press, New York, NY.
- [9] Emiliani, B.L. (2003), *Better Thinking, Better Results: Using the Power of Lean as a Total Business Solution*, CLBM, LLC, Kensington, CT.
- [10] Emiliani, M.L. (1998a), “Lean behaviors”, *Management Decision*, Vol. 36 No. 9, pp. 615-31
- [11] Womack, J., Jones, D. and Roos, D. (1990), *The Machine that Changed the World*, Rawson Associates, New York, NY.
- [12] Nishiguchi, T. (1994), *Strategic Industrial Sourcing*, Oxford University Press, New York, NY.
- [13] Dyer, J. and Nobeoka, K. (2000), “Creating and managing a high-performance knowledge-sharing network: the Toyota case”, *Strategic Management Journal*, Vol. 21, pp. 345-67.
- [14] Dyer, J. and Hatch, N. (2004), “Using supplier networks to learn faster”, *Sloan Management Review*, Vol. 45 No. 3, pp. 57-63.
- [15] Spear, S. (2004), “Learning to lead at Toyota”, *Harvard Business Review*, Vol. 82 No. 5, pp.78-86.
- [16] Achanga, P., Shehab, E., Roy, R., & Nelder, G. (2006). Critical success factors for lean implementation within SMEs. *Journal of Manufacturing Technology Management*, 17, 460–471.
- [17] Boyer, K. K. (1996). An assessment of managerial commitment to lean production. *International Journal of Operations & Production Management*, 16(9), 48–59.
- [18] Conca, F. J., Llopis, J., & Tarí, J. J. (2004). Development of a measure to assess quality management in certified firms. *European Journal of Operational Research*, 156, 683–697.
- [19] Lucey, D. J. (2008). The state of lean manufacturing in the UK 2001 to 2006. *Management Services*, 52(3), 16–25.
- [20] Motwani, J. (2001). Critical factors and performance measures of TQM. *TQM Magazine*, 13, 292–300.
- [21] Orr, C. (2005, July). Lean leadership in construction. *Proceedings of the 13th annual conference of the International Group for Lean Construction*, University of Sydney, Sydney, Australia.
- [22] Panizzolo, R. (1998). Applying the lessons learned from 27 lean manufacturers.: The relevance of relationships management. *International Journal of Production Economics*, 55, 223–240.
- [23] Worley, J. M., & Doolen, T. L. (2006). The role of communication and management support in a lean manufacturing implementation. *Management Decision*, 44, 228–245.
- [24] Zeitz, G., Johannesson, R., & Ritchie, E. (1997). An employee survey measuring total quality management practices and culture: Development and validation. *Group & Organization Management*, 22, 414–444.
- [25] Alavi, S. (2003). "Learning the right way",

- Manufacturing Engineer*, Vol. 82, No.3, pp.32–5.
- [26] Boyer, M., & Sovilla, L. (2003). "How to identify and remove the barriers for a successful lean implementation", *Journal of Ship Production*. Vol. 19, No. 2, pp. 116 – 20.
- [27] Papadopoulou, T. C., & Ozbayrak, M (2005). Leanness: experiences from the journey to date. *Journal of Manufacturing Technology Management*, 16(7), 784- 807.
- [28] Dahlgaard, J.J. and Dahlgaard-Park, S.M. (1999a), "Developing a culture for innovation, creativity and learning", *Total Quality Management*, special issue with the Proceedings of the Fourth World Congress, Sheffield, UK, Vol. 10 Nos 4/5.
- [29] Day, J. C. (1995, August). The power of lean. *Chief Executive*, 101, 50-51.
- [30] Carroll, B. (2001). Leadership in lean, empowering manufacturing organizations. *Journal of Organizational Excellence*, 20, 81-90.
- [31] Emiliani, M. L. (2006). "Linking leaders' beliefs to their behaviors and competencies". *Management Decision*. Vol. 41 No. 9, pp. 893 – 910.
- [32] Liker, J. (2004), *The Toyota Way*, McGraw Hill, New York, NY
- [33] Mader, Robert P., 2005, Lean thinking works in construction too, in: *Contractor*, February 2005, 5.
- [34] Convis, Gray, 2001, Role of management in a lean manufacturing environment; in: *Learning to think lean*, 01-1014, 2001.
- [35] Tempel, Frank, Holländer, Martina, 2001, Get rid of waste through team harmony, Landsberg, Germany.
- [36] Emiliani, M.L. (2004a), "Improving business school courses by applying lean principles and practices", *Quality Assurance in Education*, Vol. 12 No. 4, pp. 175-87.
- [37] Bateman, N. and David, A. (2002), "Process improvement programmes: a model for assessing sustainability", *International Journal of Operations & Production Management*, Vol. 22 No. 5, pp. 515-26.
- [38] Burns, J. M. (1978). *Leadership*. New York, NY: Harper and Row.
- [39] Bass, B. M. (1985a). *Leadership and performance beyond expectations*. New York, NY: Free Press.
- [40] Bass, B. M., & Avolio, B. J. (1993). Transformational leadership and organizational culture. *Public Administration Quarterly*, 17, 112–121.
- [41] Schein, E. H. (2007). Creating and managing a learning culture: The essence of leadership. In J. Gallos (Ed.), *Business leadership: A Jossey-Bass reader* (pp. 362–369). San Francisco, CA: John Wiley & Sons.