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Leadership Challenges Encountered in Implementing Lean Management Techniques

Sumith Dandunnage, Doctoral Student, University of Kelaniya, Sri Lanka
Dr R. Herath, Senior Lecturer, University of Kelaniya, Sri Lanka

Abstract

In today's context many organizations focus on streamlining their operations and have tried many techniques to get the maximum benefits from the organization. "Lean management" is a commonly heard term in businessesthatfocus on efficiency.Most commonly lean management is understood a technique or tool which eradicates all the cost factors in lean management. Unfortunately most of the organizations fail to implement this process as they focus only on the tools and do not identify the real areas which should be addressed. Researchers have not investigated deeply the areas of the challenges that will be encountered by an organization during the implementation process of the Lean Management techniques. In this paper the author attempts to identify the important of the people involvement and the challenging areas of implementing Lean Management Techniques. The main arguments and explanations of this paper have been supported by theoretical & empirical evidences of challenges in Lean Management. However, the problem we encounter is related to empirical evidence on the challenges of Lean Management is minimum. Therefore, the author attempts to identify the areas that challengers may occur and how to address the challengers that arises. Further, the author opens an area for further references on the challenges that would encounter in implementing Lean Management to an organization.

Keywords: Lean Management,Challenges, Implementation process

Introduction

Lean Manufacturing (LM) or Toyota Production System (TPS) was adapted by the execution of Japanese automobile companies. The global buzzword of Toyota started with effective manufacturing system which ensure the effectiveness of cost, quality, flexibility and quick respond (Sharma & Lata, 2016).Beside the Toyota techniques Lean Manufacturing introduce the effective process strategy reducing the lead time by eliminating all type of wastes and strengthening the value-addition for the end-user. (Julie Sisson & Ahmad Elshennawy, 2014). Lean manufacturing concentrate the end user worthiness by doing asset management rather than

other objective. They work for the investment return of the client pretty than other goals. (MichelGouse, 2008).Fundamentally, LM focus on yield of time investment for work. Among the various gratified of client regards Toyota choose the Lean Management system for their objectives. (Womack and Jones, 1990).Behind the success of biggest vehicle manufacturer the main application of Toyota was LM. (KGDAS et al., 2012).LM has become one of the most widely cited references with different values or benefits. (Wiley et al.,2007). Among them JIT technical aspects refer the push and pull system which push for production that pull the creation and delivery. (Holweg, 2007).This actually covers the internal semi connection of demand and supply. It may trigger for the dirt, humidness and heat of the storage (Wiley et al .2007). Illimitable production of single product need concentrate step of processing system (Wiley et al., 2007). Generally, one product continuous production get fall in diminishing system for the business slow chartered. The cycle time push the process to get every step ready in time and delivery in time. (Wiley et al., 2007).

In aptitude with the global trade market existence manufacturing companies are daubing different strategies as a defeater for efficiency and competitiveness. (Nordin, Deros, & Wahab, 2010). Nordin(2010) lean Manufacturing methods are applying widely by almost everyone by using different name of it and it becomes most reliable method now days (Nordin et al., 2010).Lean Manufacturing method become most reliable method for manufacturing companies. And many companies transform them a world class as it significances gives an out comes of smooth production according to customer needs without any wastage. (Nordin et al., 2010). This method is essence for a challenging winner and also applicable beyond the cultural difference issues like national and organizational way. [Wong, M,2007).Grounded homework with Lean manufacturing was done by Wong et al. (Wong, Y. C., Wong, K. Y., and Ali,2009) which is based on Malaysian various sector specially in electric & electronics companies and automobile industries which consequences give an effective production process and identification of specific problems to solve. (Nordin et al., 2010). Thus, this study intends to identify the challenges that might arise during the implementations process of lean.

Methodology

The main content of this paper article is to identify the challenges of implementing lean in an organization. It also gives an idea of the areas where organization least consider, but is the most important aspect during the lean implementation process. The author has prepared this article as a literature view concept and the article was supported by journal articles, industrial publications, books related to lean management. The discussed main areas of challenges are supported with theoretical evidence which gives an overview on how organizations have focus on the 4 P's but have misinterpreted the importance of people aspect during lean implementation.However, the supportive publications for empirical evidences of the failures and the discussion of challenges are very minimum. But evidences are taken based on surveys carried out in aerospace industry, Health industry etc .However; there are few publications which have mentioned about the challenges the organization faced and the failures organizations encountered. Therefore, this paper is prepared as a concept paper and the arguments are more based on theoretical reviews. Finally, the author concludes the paper by prolonging of future research on the aspects that are

not addressed in detail when lean management most important to implement a successful lean process.

Definition of lean

C. Orr (2005) mentions that “Lean” is portrayed as a tool. Sayer & Williams (2007) explains lean as a practice which focuses mainly on minimizing waste in the production floors to provide more value added services & products to the customers. Lead time refer the time required for total production by following every steps and a certain time limit to deliver the same. If started from raw materials process to delivery end. (Wiley et al., 2007).Rather than the accounting system LM system provides seven wastes steps that can reduce 95% of cost (Ohno,1988). The wastes are unit categorized into Overproduction, Waiting, Transportation or conveyance, over processing or unproductive processing, Excess Inventory, Defects and Extra movement. Over production is manufacturing quite the client demands (Shingo,1989). There are 2 stages of over production. Quantitative (Items manufactured than needed) &Early (Items been manufactured before a demand.)

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It becomes expensive or burden for the company to produce material than the required quantity. Rather than wastage of material, burden comes from the process cost too. Such as overstaffing, storage, transport etc. (Ohono, 1988). The foremost reason of wastage is not produce according to the demand and supply. (Pereira, 2009). Overproduction decrease the product demand as customers are getting before their needs arises. (Simms, 2007) Once demand decrease then value of product also decrease and wastage stand up and unnecessary work increases and time wasted. (Kennedy, 2011).Therefore, JIT ensures the effective use of resource. (Ohono, 1988). Once demand is in market and customer need to wait for the product then it’s also decrease product demand and within the time being productivity also decrease. (Pereira, 2009). Delay of delivery can be for workers or process of the order (Simms, 2007). Sometimes available material or processing by machine may reason for delay. (Kennedy, 2011). Transportation and deceptive product handling process arises the product defect problem and useless product. Therefore, “Point-of-use Storage” (POUS) is applicable to effective use of materials transportation and delivery a valuable product to end users. (Ohono, 1988). Mismanagement of Transportation for goods and materials for movement internally even wastage and add no value in product. (Pereira, 2009). If mismanagement of transportation or movement can reduce then it can reduce the cost too. (Kennedy, 2011). Manifold processing system causes the unwanted steps during execution. Such as reinsertion, re-working etc. This is mainly the cause of fragile process plan and it produces defective products (Ohono, 1988). Also over processing more than the demand is another vital reason for waste. (Pereira, 2009).Inventory like raw material or WIP goods should

be used which add extra value of produce and other should be illuminate. As extra inventory, required extra processing time, damage goods, transport and ultimate increase cost (Ohono, 1988). It refer that you are wasting products without your customer demand and pointless work (Kennedy, 2011)

Another reason of cost increase is producing defective products. Which can be service or product, as it needs to correct the product by reworking, replacement manufacturing, giving extra time and energy (Ohono,1988).Preceding, defect is the less expected product then customer required (Pereira,2009) . Defected product is always rejected as it is not their expectation (Simms,2007). It also waste again the time, material, and labor required to fix the defective part(Kennedy, 2011).Unhealthy working process flow cause of extra worker movement without any merit of product. This would cause due to improper workflow, improper lay, improper housekeeping, and ever changing or unregistered work practices (Ohono , 1988). According to Pereira (2009) mostly negligible and simple wastage is movement which is catergorised to be people or transport of product and it has no value with product quality. (Pereira, 2009). Rather than the people and product, if machines and product line are in placed in two apart places then there is also unnecessary movement befell and ultimately wastage arises. (Kennedy, 2011).The key conception of lean management is enriched with different sub philosophies (Wiley et al., 2007). Maintaining superiority in cost, quality, quick response and flexibility are the main factors focused during implementing lean (Rahman, Sharif ,Mashitah Mohamed Esa, 2013.). Association of German Engineers (2012), states that Lean Production is an art in manufacturing. Further research shows that 80% of the members across the world have incorporated the tools of lean into their organizations. Dombrowski & Mielke, (2012) have mentioned in their research that more than half has executed their Lean Production system persistently. However, according to Liker (2004), the organizations that implement lean have not received their expected outcomes or have not last for long.

Relationship of Lean Leadership & work force in Lean Management

Wormack explains strategies and tools are similarly important, but the members involved do not have a wide understanding of lean. Mann (2009) further mentions that execution of strategies and tools are a simpler portion of during the implementing process of Lean. C. Orr, (2005) explains that individuals only focus on the strategies during the implementations. D.P Meier (2007) highlights the key figure to success in lean management is to focus on the work force. According to Mann (2009) the greatest challenge is to change the behavioural attributes and mentality of the work force and the leaders towards the change. The primary individual who identifies common changes, any deviations from the standards and defects of the process are the work force.(Womack, Jones and Roos,1990).Womack ,Jones Roos et al (1990) further explains that the work force is the part of separating lean & mass manufacturing approaches. Convis (2012) derives the key mission in lean leadership is the capability of workers. According to Womack (1990) in lean manufacturing there is no work force categorized as white & blue color.

The information of any operative issues can be obtained directly from the work force. (Womack 1990).Liker, (2004) have introduced 4P model as extent of using Lean Production system. Refer (Figure1).

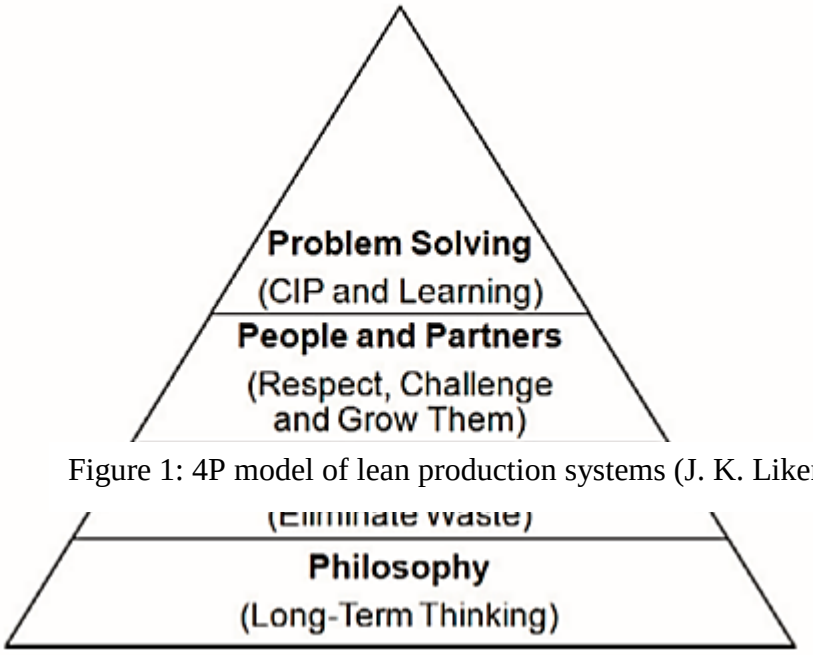


Figure 1: 4P model of lean production systems (J. K. Liker, 2004)

According to Liker (2004), the four important parts of lean are named as philosophy or strategy, process, people, partners as well as problem solving .Orr (2005) explains many organizations only focus on minimizing wastage. Further explains the wastes are minimized by using one piece stream, blunder sealing, traditional work etc. (Orr 2005).Orr (2005) mentions that many organizations have ignored the other three P's of lean. Examples like Ohno (1988) refers that Lean management system provides seven waste steps that reduces 95% of cost. Research findings of Pereira (2009) have stated motion is misunderstood as a waste that arises from transportation. He further explains movement of people is as much as important as it is an area where waste could arise most and would have an effect on production. (Pereira, 2009).Orr (2005) explains all individuals should consequently be involved in actualization of a lean generation. Mann (2009) explains that this change or involvement on the operational level such as the shop floor works should have a solid effect on day by day alliance with the operative management. This collaboration will help to have Continuous improvement process (CIP) (Orr,2005). Mann (2009) explains that before the senior management is educated the workers should be thoroughly aware of their work environment. However, the challenge according to Vidal (2007) workers are not ready to adjust to a dynamic role. The work force cannot do this task by themselves. (Orr,2005). Many authors have clearly understood that Continuous improvement should be

driven by the shop floor workers. (Liker and Convis,2012; Womack, Jones and Roos, 1990).Further, some authors have recognized that in most of the occasions employees fear to get involved to drive the lean transformation due to the fear of losing their job for any breach during the process. Hence, they tend to interrupt the process. (Achanga, Shehab, & Roy, 2006). Employees feelings about problem-solving demands are vague and confusing which is a challenge.(Bouville & Alis, 2014). Similarly, Shimizu (2004) states, CIP cannot be workable without any specific guidelines and executive support.

Thus , a research mentions that the hierarchical structure must give adequate time for the shop floor level work force to be prepared (VDI - Association of German Engineers, 2012). They will have to carefully be attached to their work frame works and does not allow for any insert or improvements while the process is going on. (Orr, 2005).Some instances employees feel disabled or paralyzed when an opportunity arise to get involve in decision making and problem resolving (Bouville & Alis, 2014).Employees feelings about problem-solving demands are vague and confusing(Bouville & Alis, 2014). Bouville & Alis (2014) further explains many workers are not willing to take the initiative, feels unprepared and does not show any willingness to engage in problem solving together with other employees. But there is no significant relationship on problem solving demand and job satisfaction Vidal (2007). Bouville & Alis, (2014) mentions Problem solving demand can be perceived by the workers as a challenging aspect or as a frustration, but it totally depends on the employees attitudes

Association of German Engineers (2012) have highlighted that by frequently building up a comprehensive hancho position would control the improvement activities on the shop floor level. Mann (2009) explains that the knowledge and the support during the lean implementation process should be given to the workers prior to initiating lean. Vidal (2007) explains employees may feel stress as an adequate training on problem solving or lean implementation is not provided initially, which could have a negative impact on the job.Mann (2009)further explains if the required support and knowledge is not been provided the improvement activities will not be properly done and lastly it would not give the expected outcome of implement Lean Production system. Orr (2005) mentions that there is no proper structure, strategies, standards or a methodology on how should the knowledge be passed to the workers. Bouville & Alis (2014) further explains many workers are not willing to take the initiative, feels unprepared and does not show any willingness to engage in problem solving together with other employees.

This gives space to use various methodologies that would help to initiate lean manufacturing and would closely coordinate with lean leadership framework. (Orr,2005).Hence, both Mann (2009) and Orr (2005) have identified that “Lean Leadership” to be the missing connection between lean production and implementing its techniques. They also mention that this is broadly explained and comes with the self- improving venture of a genuine CIP. (Mann, 2009; Orr,2005). Liker (2004) explains “Lean leadership” is an organized frame work which is manageable during the implementation and helps constant improvement of Lean Production System. Mann (2009) also mentions that Lean Leadership cannot be identified as a substitute for lean production system neither it is an extra feature. Authors like Liker (2004) & Convis (2012) mentions that the leader is the mentor who creates the methodology and develops the groups aptitudes.As mention in the 4P model , the lean thinking pattern is an essential part to have a sustainable advancement of

workforce and leaders. (Liker,2004). Further the lean initiative cannot be implements without the support and the knowledge of the employees. (Mann, 2009; Orr,2005).Bouville & Alis, (2014) mentions Problem solving demand can be perceived by the workers as a challenging aspect or as a frustration, but it totally depends on the employees attitudes. Thus, it is understandable and challengeable to identify that there is a negative impact to the job satisfaction of an employee if they are taken for decision making and problem solving during the lean implementation process (Bouville & Alis, 2014).

Nevertheless, Liker (2004) mentions, that customer esteem have a major role in Lean Production system. The client knows if an activity is value adding or not and it is a hierarchical exercises at the manufacturer's premises. (Liker, 2004). In figure 2, Liker (2004) has taken steps to identify five fundamental standards by analysing the methodologies created by various creators.

Figure 2. The five principles of lean leadership

Liker (2004) explains the improvement culture is all the practices and characters that ensure perfection and this perfection cannot be regularly within the reach. The improvement is called as lean culture and is an area which is frequently ignored. (Elliott, 2008).Authors like Emiliani (2008) & Liker (2004) describe the objective of improvement culture are to discover the main driver of the failure and to ensure, this failure won't happen once more. Further, authors explains failures arise which requires development and learning (Convis,2012). Once the failure is made it affects the main driver who is in charge and not only the single individual who makes the mistake. (Emiliani, 2008). Both authors Bodek (2008) and Imai (1997) states that the improvement procedure may decentralize gradually. Many authors have explained that the self-improvement becomes a rule of lean leadership (Liker 2004 &Convis, 2012; Emiliani,2008).The work force should be tested continuously to identify issues and take care of real issues (Rother, 2009). Rother (2009) explains how a leader should act to obtain information to obtain a sustainable CIP. Leaders' adhering to the gemba rules would be able to coordinate with the work force (Imai:1997).

1. First go to gemba: This is the point the lean pioneers should go to the location where an issue emerge.

2. Check : Quickly separate everything that might cause in the failure and would cause more conditions.

3. Take temporary countermeasures. Taking countermeasures makes easier to discover the issue and saves lot of energy which is quite costly but is much as important.

4. Discover the underlying driver : As mentioned earlier, at this step it recognizes the issues and primary give solutions in order to ensure the solution will be effective in the long run.

5. Once the main driver is discovered, the continuous countermeasures should be taken. Which means the procedures that existed should be reconsidered and a new standard must be found.

The final fundamental standard of lean principal has several names such as “Hoshin kanri”, target management or policy positioning (Liker,2004). Liker (2004) explains Hoshin Kanri focus on CIP exercises to ensure improvement exercises don’t have counter directions. Convis (2012) further explains the group should be fully committed to the master plan objective. (Convis, 2012). Jackson (2006) explains hoshin kanri uses the PDCA cycles of the important aspects are efficiently adjusted. (Jackson, 2006). The PDCA cycle is used for short learning cycles in order to achieve the persistence of self-advancement. (Liker and Convis, 2012). In Figure 3 it shows the four models that exhibits the important job of the group. (Dombrowski and Mielke, 2012).

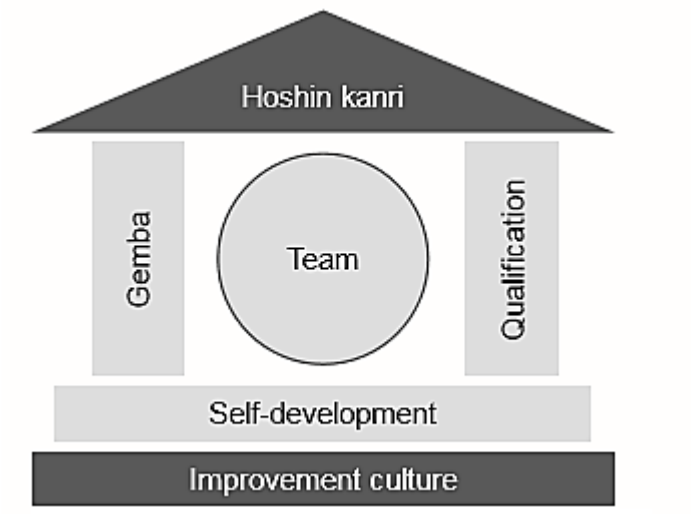
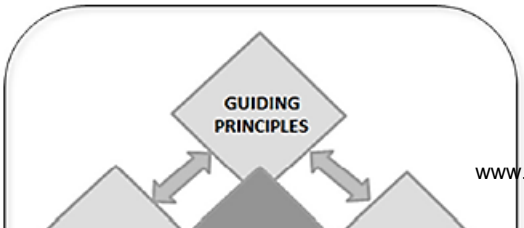


Figure 3. The lean leadership model (Dombrowski and Mielke, 2012)

Relationship of “Culture” in Lean Management.

Shingo- Institute (2012) have introduced the “Shingo model” which a very comprehensive and transformational module which mentions that related tools and technique of lean should be led by guided principals and that principals should be embedded in the organizations culture which should reflect from all the employees in the organization. As shown in figure 4, the behaviour of the work force of an organization is the key point to understand the inter relationship between the guided principals, tools, systems and results. (Shingo Institute, 2014).



This model basically focuses on two aspects, namely behavior & results which works with a scoring system. Assesses look at the role, duration, intensity, scope & frequency behavior of the leaders, managers & the work force. The other aspect is results which focus on quality, cost, and Customer satisfaction, safety which gets asseses in terms of stability, trend, alignment and continuous improvement. (Bicheno, Holweg, 2016). Authors further explains that these are more valuable thinking frame work as without knowing these information in detail a proper lean transformation cannot occur.

Empirical Review

Many authors have mentioned that even though the lean process is successfully initiated, a significant number of organizations fail to obtain the expected the results constantly (Kumar et al., 2008b). According to Bhasin & Burcher (2006) mentions the finds of a research conducted in the United Kingdom (UK) highlights that fewer than 10% of the organizations have implemented lean successfully. Furthermore, more than 70% of the companies have been reported to be failed in the implementation process. (Pedersen & Huniche, 2011). Authors like Ringen and Holtskog (2011) states that every three initiative projects in general, two companies fail to get the expected results. A survey carried out for aerospace companies in 2005 gives the outcome as a percentage lower than 50 per cent responded on implementing lean, out of which 20 per cent claimed to be satisfied and the latter 30 per cent were dissatisfied. (Chakravorty ,2009), (Kumar et al.2007, 2008b).A survey carried out by Feng & Manuel (2007) states that in the health care companies who are surviving are more than 54 per cent and the reason for their survival is that they have not anticipated in implementing lean strategies to their organizations. Moreover, a review study conducted by Glasgow et al. (2010) concludes that due to the lack of acceptance of the stakeholder the lean initiatives have failed. They further explains the cause for failures and dissatisfaction is not because of the shortage of the improvement process, but mostly the companies fails to pay attention for critical factors such as involvement for top management. Communication with the ground level workers, selection of training, required training programmes and so on(Glasgow et al. ,2010).According to Duarte et al.(2012), the success or failure of the lean implementation process is purely depends on how and where it is applied. Thus, it is noted that there is clear limitations during the implementations process.

Conclusion

This concept paper focuses on the areas of Lean Management which is least addressed by researchers. Now a day's Lean production system have become model of production facilities though even, many initiatives are implementing for continuous improvement process (P. Womack, 2011). For the key success, many solely methods and tools are in focus of the

implementation. But those couldn't come in the light for vital elements of LPS. It needs daily improvement of implementation and a strong leadership can defeat. (Dombrowski & Mielke, 2013). Consequently, the relevant principles of lean leadership should be continuous improvement with the future possibilities. (Dombrowski & Mielke, 2013). It's also true that some elements misinterpreted and wrongly implemented which evolved Lean production to the state of the art in manufacturing (Beuth Verlag, 2012). An international survey reflect 80 % of the participants actually half-finished the implementation and improve their LPS continuously (U. Dombrowski and T. Mielke, 2012). It also need sustainable success is the employees too. (J. K. Liker and D. P. Meier,2012). Only deep understanding of lean can implements the methods and tools. Otherwise it is useless (J. P. Womack, 2012). The main challenge is to do the perfect leadership (D. Mann,2012). The alteration between lean and former mass production is the role of employees not the white and blue-collar workers but it's a process of optimizing the operative issues (Dombrowski & Mielke, 2013). The employees can identify the main defect and know how to optimize it (J. P. Womack, D. T. Jones and D. Roos, 1990). Therefore, four relevant aspects of lean: philosophy, process, people and partners as well as problem solving can have a good combination for the success of Lean production system. Most of the enterprises use the process and ignore other three P of lean. But need all four P's to get success (C. Orr, 2004). It's also described as toolbox lean by C. Orr, (2004) and one single tools can't get the actual result/ it needs all tools with continuously improve (every process every day and to achieve a so-called continuous improvement process (CIP). And obviously it should be follow a standard leadership process or work flow and employees participations too. (Dombrowski & Mielke, 2013) (Dombrowski & Mielke, 2013). As Liker's (2004) 4P model, areas such as people & Philosophy could be considered for future research which could be an advantage implementing a successful lean process in an organization. Thus further research is required to address the current gaps in this literature.

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