

REVIEW OF FACILITATORS FACTORS TO LEAN MANUFACTURING

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Abstract -In order to identify the facilitators factor responsible for the use of lean practices in industries, knowledge of the working atmosphere of the industries, understanding of lean basics are one of the factors that needs to be essentially addressed. Number of factors which facilitates the use of lean practices has been identified in the literature study This paper deals and highlights the conceptual importance of facilitator factors that support any industry for successful implementation of lean manufacturing.

Keywords- Facilitators factors of lean manufacturing

INTRODUCTION:

It is necessary to evolve an understanding of the factors that are critical to the successful application of lean practices.. Achanga et al. 2006 identifies four key factors for lean implementation. The factors are finance, leadership, organizational culture, skill and expertise. Similarly Crute et. al. 2003, provides five factors for the successful lean implementation such as change strategy, company culture, product focus, senior management commitment, and timing of performance improvements. Czabke et.al 2008 reports three main factors with great importance for the successful Lean implementation and these are: Communicating the vision of the new initiative at every organizational level, necessary change in the organizational culture and consequently following the new practices and principles. Other researchers such as Motwani 2003 and Mefford 2009 reports the various lean facilitator factors such as organization culture , skill of employees and their involvement, management commitment etc. These factors are varied in the nature and the researcher has explained these factors in the following paragraph:

➤ Positive mindset and attitude of people

Positive mindset and attitude is one of the most critical success factors for adopting the use of lean practices. The philosophy of lean manufacturing and the implementation of lean practices requires a total different approach which needs them to perform the task or job as per standardized procedures and naturally this is very tough for a operator or employee who is used to operate or perform the task in old pattern from various years and suddenly as per new lean approach he has to mend his way as per new instruction. To compensate this positive mindset and attitude of people is very necessary throughout the company or industry so that they can use the lean practices in positive note and ultimately reaps the benefits of the lean manufacturing. Since the researcher has made various field trips to the industries, it is quite evident from the interaction from the persons working in the industry (which are leading in the use of lean practices) that they are very confident about using lean practices because of they are having a culture to pursue the

standardized operating work culture by inculcating the positivity in work culture. Changes in mindset in positive direction provide a way to employees of an industry to fulfill their own goal in effective manner which are more aligned to industry improvement efforts. From the detail description above the positive mindset and attitude of the people becomes the one of the facilitator factor in this research study.

➤ Self discipline of employees

Self discipline is the most important facilitator factor in order to use the lean practices in industries .Various research paper since the inception of lean philosophy have endorsed the importance of self discipline. For example 5S is the most fundamental and most frequently practices used in the industry because the successful implementation of each “S” paves the way and platform for the many other classical lean tolls such as total productive maintenance, value stream management, and single minute exchange of dies etc. The fifth S is all about the self discipline. It is obvious that one can teach the standardized operating procedure and ways to do the things optimally but in practice it can become habit by only inculcating the self discipline only by the each and every person of the company or industry. Importance of self discipline is also augmented because having self disciplined employees not only helps the company to adopt the new improvement methodologies quickly but it also increases the safety of the employees as well, which is the most important factor in modern world. In this way self discipline of the employees is another factor which is to be considered the facilitator in this research study.

➤ Commitment of top management

According to Scherrer-Rathje et al. (2009), lean implementation success depends on the evidence of management commitment and involvement in the lean effort. Lean implementation success also depends on employee autonomy to make decisions regarding business process changes and information transparency of lean goals. Commitment of top management is also essential because it is very difficult that middle management and bottom

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management to institutionalize the initiatives and improvement without the support of top management. In any company top management is also responsible for providing the good leadership and culture ethics and employees in the company always influenced by the examples set by the leaders. Commitment of top management can be achieved by organizing regular training sessions. In this way the support of top management becomes another facilitator factor in order to use the lean practices for this research study.

➤ **Good technical knowledge of lean practices**

Another important facilitator for effective application of lean practices is having a proper and good knowledge of lean concepts and as well as implementation procedure. Sometimes effort of applying any particular lean practice does not produce the results as desired because there is dearth of deep understanding of the lean practices among the implementation team. Hence good technical knowledge of lean concepts and practices is utmost important. Since in real world the implementation of lean practices involves lot of operational complexities. This problem can only be compensate by having good practical oriented approach as well as technical knowledge of lean practices. On the basis of the reason mentioned above, in this research study technical knowledge of lean practices is considered as one of the facilitator factor.

➤ **Lean philosophy as a part of company policy**

For any company or industry to start an implementation of lean manufacturing the first step is to include lean philosophy in to company policy. It is essential that when lean philosophy becomes the part of the company policy then the whole organization follows the same and the each and every employee of the organization march towards the effective implementation of the company policy and simultaneously achieve the results as aimed by the organization. There are lot of advantage of such a company policy which involves the lean philosophy such as there is hesitation in the mindset of the employees about the application of any lean practices and in this way workers can be more initiative driven and improvement oriented. Therefore lean philosophy as part of company policy also considered as one of the facilitator factor in this study.

➤ **Customer and Supplier feedback.**

In this era of fast communication the flow of information took place rapidly from one place to another place. Real time information can save an organization from various difficulties which are supposed to come later. Some companies follow the rigid quality parameters from their customer as well as supplier due to international obligation and these can be effectively done by using the lean practices. In this way customer and supplier feedback to any organization can provide the platform to address the particular problem. For example of customer is giving the feedback about the problem in order delivery then the use of Kanban could result in better production planning and as a result of it an organization can handle its customer order in efficient manner. Customer and supplier feedback to the organization provides the opportunity to involve in the problem solving at various level by sharing their ideas and information to move positively ahead in the lean journey.

This provides the basis to include feedback of customer and supplier as facilitator factor for the application of lean practices.

➤ **Good Lean Infrastructure.**

Availability of proper infrastructure of lean is very important factor in order to use the lean practices effectively. Such as information booklets, proper and designated place to show the progress indicators, suitable budget provision for supplementary work related to the implementation of lean practices such as fabrication, stationery, availability of video camera to record the movements of the operator, regular visit to companies which are already excelled in the implementation of lean practices are some of the features of the good lean infrastructure. Availability of essential resources such as skilled manpower, finance, knowledge of lean practices among the employees, and cross functional teams characterized the lean infrastructure of the company and provides the platform for the effective use of lean practices. Due to this reason having a good lean infrastructure is considered as facilitator factor in this research study.

➤ **Availability of full time Lean expert.**

Since the implementation of lean practices involves a lot of complexities and it is very difficult for any company to resolve all these complexities without any expert help. Company requires an expert which can provide the technical guidance and suggest improvement methodologies to improve the existing system. But in addition to this, company must have some internal lean experts from the workforce itself. Certainly companies need some time to develop the internal experts. These people can be from middle management and supervisor level and they can be trained on regular basis from the lean experts. Now a day's some companies have established separate lean manufacturing department by recognizing the importance and advantages associated with lean manufacturing. This is the most critical facilitator factors for those companies which are recently started the effective implementation lean manufacturing and its practices.

➤ **Training to all employees.**

Training of employees is an essential part of effective implementation of lean practices throughout the organization. Training is very important aspect for creating a lean culture. With help of regular lean oriented training programs, organizations emphasis the importance of lean practices and the organization's commitment to the lean manufacturing. In this way, training programs performs various functions such as providing essential skills to the employees to adopt lean culture as well as develop the employee in to the multiskilled employee. It is very necessary to have clear cult training plan for every person in the organization. it is endorsed by the various researcher in the past research study that regular training programs is the only way for the organization to create the awareness about the lean practices and motivate them in order to use the lean practices in a effective manner. Training to the employees can be provided by various methods such as classroom training or onsite training. Organization must develop a skill matrix for every employee working in the organization and also show it as

progress indicator. In this way the training of employees become another facilitator factor in order to use the lean practices for this research study.

CONCLUSION

It has been concluded that for any industry to implement the lean manufacturing and its practices effectively, then it must focus on above stated supporting factors. Because due to proper attention to these factors can create a atmosphere of continuous learning and improvement which is utmost desirable in present day scenario.

REFERENCES

- [1] Achanga, P., Shehab, E., Roy, R., & Nelder, G. (2006). Critical success factors for lean implementation within SMEs. *Journal of Manufacturing Technology Management*, 17(4), 460- 471
- [2] Crute, V., Ward, Y., Brown, S. & Graves, A. 2003, "Implementing Lean in aerospace - challenging the assumptions and understanding the challenges", *Technovation*, vol. 23, no. 12, pp. 917-928.
- [3] Czabke, J., Hansen, E.N. & Doolen, T.L. 2008, "A multisite field study of lean thinking in US and German secondary wood products manufacturers", *Forest Products Journal*, vol. 58, no. 9, pp. 77-85.
- [4] Motwani, J. 2003, "A business process change framework for examining lean manufacturing: a case study", *Industrial Management & Data Systems*, vol. 103, no. 5-6, pp. 339-346.
- [5] Mefford, R.N. 2009, "Increasing productivity in global firms: The CEO challenge", *Journal of International Management*, vol. 15, no. 3, pp. 262-272.
- [6] Scherrer-Rathje, M., Boyle, T. A., & Deflorin, P. (2009). Lean, take two! Reflections from the second attempt at the Lean implementation. *Business Horizons*, vol 52(1), pp 79-88. Retrieved from www.sciencedirect.com