

Why Indian Industries Fail To Implement JIT- An Analysis

P. Vincent Balu

Sangam University, Bhilwara

Prof. R. NesaMoorthy

Sangam University, Bhilwara

Abstract

The objective of this paper is to analyse why Indian industries fail to implement the Japanese Just in Time technique. Though the Indian industries are competent enough to stand before the international market, yet they are not ready for it. A set of questionnaires have been sent to few industries and the study has been carried out on those factors. The list of parameters which are crucial for implementing JIT system has been discussed in detail.

Key words: JIT, Training, Vendor Relationship, cellular layout

1. Introduction

Indian Industries has got tremendous power to stand before the global market. Due to some strong reasons they fail to prove their potential. Just in Time technique is one of the Japanese production strategy that improves the productivity by reducing the in process inventory.

JIT means that in a flow process, the right parts needed in assembly reach the assembly line at the time they are needed and the amount needed[7] The JIT approach started to be developed at Toyota by Taiichi Ohno, its vice president of manufacturing, and several of his colleagues since 1940s. At that time it was called the Toyota Production System (TPS). Just-In-Time was widely applied in Japan during the 1970's in the automotive and electronics industries.

JIT may be described as an extension of the original concept of managing the material flow in industries to reduce the inventory levels at each stage. It is a demand driven approach, which encourages flow type production. It is also described as a drive to simplify the manufacturing system in order to quickly detect the problems and force immediate solutions.

It is now well recognized that JIT is not just an collection of techniques but really a philosophy. The central idea behind the JIT philosophy is to expose the hidden problems and involve all employees, to remove them, so that the necessity of higher stocks does not arise.

The techniques and systems used by various companies under waste elimination techniques of JIT are as follows:

- Batch size reduction.
- Group technology layout.
- Scientific machine and factory design.
- Mixed model of production.
- Kanban applications.
- Balanced scheduling.
- Set-up time reduction.
- Flexible and multi-functional workforce. [8]

JIT manufacturing results in lower total system costs and improved product quality. With JIT, some plants have reduced inventory more than fifty-percent and lead time more than eighty-percent JIT is lowering costs and inventory, reducing waste, and raising the quality of products. Companies that implement JIT are able to reduce inventory level and approach zero inventory conditions [7].

JIT practices can help the Indian industries to become more competitive by enhancing their export in world market. But, it is observed that social, cultural and political matters have a significant impact on JIT practices in different parts of world Revolution in industrial engineering always made changes in the production system. JIT leads to significantly higher quality and productivity and provides visibility for results so that worker's responsibility and commitment are improved.

2. Background to the Research:

The recent research has revealed few important factors that the quality circles and good communication are not very difficult to implement while other critical elements like multifunctional workers, long term relationship with vendor, support from labour union and top management attitude have high rating, which indicates that JIT implementation in India is slightly difficult, but not impossible[3]

All the sectors have rated TQM as an important factor for successful JIT implementation. It

is well known that while JIT systems seek to provide an organizational framework for exposing problems, TQM principles provide an organizational framework for problem solving.[4] Balakrishnan (1996) analyze a sample of 46 firms that publicly disclosed adoption of JIT production. Using a matched pair sample of non-JIT firms, they found no significant differences in inventory utilization for the two samples prior to JIT adoption.

JIT firms, however, show superior utilization of overall and working process inventories relative to their control firm counterparts after adopting JIT production.[5]

3. Case Study:

A few set of questionnaires have been prepared and a study has been conducted. The comparison is given below.

PARAMETER	Ashok Leyland Ltd	Mico Bosch Ltd	Windal Precision Ltd
Vendor Relationship with Top management	Very good	Excellent	Good
Labour Cooperation	Very good	Excellent	Good
Type of Plant layout used	Group Technology	Cellular Layout	Group Technology
Top management commitment	Excellent	Excellent	Good
Level of training to Employees	Excellent	Very good	Very good
Level of Material handling	Very good	Excellent	Very good
Preventive maintenance level	Excellent	Very good	Very good
Kanban Practice	Yes	Yes	Yes
MRP Practice	Yes	Yes	Yes
Supply chain Management	Excellent	Excellent	Very good
3M's approach Irregularities, Excessiveness & Wastefulness	Yes	Yes	No
Contract with supplier(s)	Long term	Medium term	Long term

The study reveals that the industries have taken effort to implement JIT but in the area of Vendor Relationship with Top management, and Labour Cooperation and contract with the suppliers are lagging. These are listed as crucial factors for implementing JIT apart from Training to the employees, Level of Material handling and etc.,

4. Implementation process[9]

Implementation of JIT is not a one day affair. It is a continuous process. JIT practices can help the Indian industries to become more competitive by enhancing their export in world market. But, it is observed that social, cultural and political matters have a significant impact on JIT practices in different parts of world. In India, suppliers of several raw materials (imported and domestic) are subjected under government control through supply agencies, which translates into high uncertainty. Government control prices of key resources and taxation rates; all creates obstructions in way of implementing the JIT[10]

The following tools are playing vital role in implementing JIT successfully.

4.1. Training

Japanese view manpower as a vital asset of the firm. With investment in training and development firm upgrades the skill of workers. Since Japanese culture in industry is of "life-time-employment" type, such investments in manpower are found to be helpful in developing a team of multi-skilled workers, who have better problem solving temperaments. Therefore, better quality production is achieved through training. Alongside, the productivity also improves. The awareness about wastes and improvement of productivity and efficiency is always in focus in these trainings.

4.2. Long Term Planning

This requires continuous improvements and trial and error approach. However, it is important to note that the benefits of JIT start coming even at the early stages of its implementation.

4.3. Labor and Union

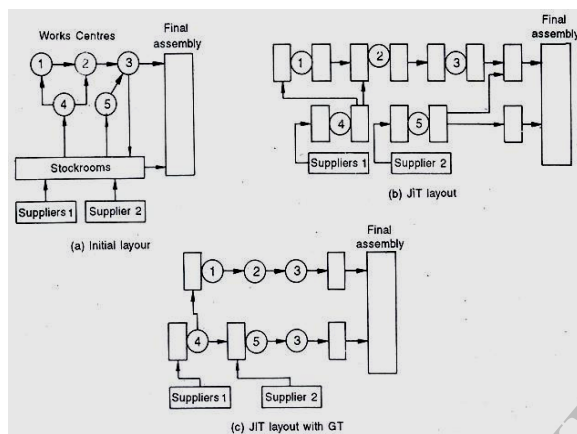
Unlike situations in our industry, where there is a demand of specialist workers, JIT demands for multifunctional workers with flexibility to switch over. Union must be enterprise-oriented rather than worker-focussed. Indian labour is usually uneducated, lacking in motivation and more concerned with monetary benefits and job security than carrier progress and development of their potential. Labour unions and their reluctances are also unfavorable for implementing the JIT. Therefore, specific cultural changes are required for successfully implementing the JIT

4.4. Management Support Complete management support is needed in the implementation of JIT. For

elimination of productivity-related problems and reduction of asset/inventory level, the support of management is a must.

4.5. Cellular Layout and Work Flow

The functional layout is no more useful in JIT environment. Group technology based cellular layout is needed which is shown in fig(1.c). The flow of material and arrangement of machines in the cell may preferably be of U-type. This arrangement is useful for reduced inventory, multifunctional workers and elimination of other forms of waste like set-up time, etc.



Ref: <http://www.transtutors.com/>

4.6. Supplier Management

JIT believes single but highly reliable vendor. Suppliers are treated as partner rather than competitors. They are trained in quality and production so that no defective should reach at the shop floor or assembly line. Extreme care is needed in choosing and developing vendors in JIT environment.

5. Conclusions:

If an industry feels that they are not ready for successful JIT implementation, they will not face the global competition. A lack of perception of the critical factors like Vendors relationship, Labour cooperation and Top Management commitment could have been the reason for the non-implementation of JIT. If these were tried at the right level, then Indian industries will stand high forever.

6. References:

- [1]. JIT Based Quality Management: Concepts and Implications in Indian Context, Vikas Kumar / International Journal of Engineering Science and Technology, Vol.2(1), 2010, 40-50
- [2]. MRP-JIT integrated production system, Vaibhav Jha / International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622
- [3]. Vrat P., Mittal S. and Tyagi K., 1993, "Implementation of JIT in Indian environment: A Delhi study", Productivity Journal, Vol. 34, pp: 251-256.
- [4]. Are Indian Industries ready for JIT., www.iimb.ernet.in/~mahadev/jit.pdf
- [5]. R. Balakrishnan, T.J. Linsmeier, M. Venkatachalam, "Financial benefits of JIT adoption: Effects of customer concentration and cost structure", The Accounting Review, 1996, pp. 71-83
- [6]. Gunasekaran A. and Lyu J., "Implementation of Just in time in a small company: A case study", Production Planning and control, Vol. 4, 1997, pp. 406-412.
- [7]. T. Ohno, Toyota Production System: Beyond Large Scale Production. Productivity Press, Cambridge, 1988.
- [8]. JIT System: Concepts, Benefits and Motivation in Indian Industries Dr. Sultan Singh, Dr. Dixit Garg, IJMBS Vol. 1, Issue 1, March 2011 I S S N : 2 3 3 0 - 9 5 1 9 (On line)
- [9] <http://www.transtutors.com/homework-elp/industrial-management/just-in-time-production-system/requirement-for-implementing-jit.aspx>