

# An Analysis on JIT in Indian Industries

Swetha S

T2 Operations MBA, CET School of Management,  
Affiliated to KTU

Dr. Sini V. Pillai

Assistant Professor, CETSOM, Affiliated to KTU

## Abstract

**Purpose:** The purpose of this paper is to compare and discuss the just in time inventory system in Indian industries. The contribution of this paper is through literature review.

**Methodology:** The research methodology is based on literature review of the papers related to JIT in India.

**Research Limitation:** This paper has some limits due to the fact that it is based on literature review.

**Keywords:-** JIT, Cost, Quality, Toyota Production System, Japanese Technology, Kanban System.

## I. INTRODUCTION

JIT is a methodology aimed at reducing the time of production as well as reducing the cost of production. It was developed in Japan particularly at Toyota in 1960's. It is mainly used for managing the material flow and to reduce the inventory level in manufacturing sector. A manufacturing concern should look forward the issues regarding the production, productivity, flexibility of the organisation. JIT helps in dealing with the issues. This inventory supply system represents a shift away from the older just-in-case strategy, in which producers carried large inventories in case higher demand had to be met. Toyota uses just-in-time inventory controls as business model and as per the customer order it designs the products. Toyota took almost 15 years to correct the JIT system implemented by them. Through this system excess inventory can be managed and the model is also known as just in case or JIC model.

## II. JIT SYSTEM

Just-in-time (J.I.T) manufacturing, also known as just-in-time production or the Toyota Production System (TPS), is a methodology aimed primarily at reducing flow times within production system as well as response times from suppliers and to customers. Its origin and development was in Japan, largely in the 1960s and 1970s and particularly at Toyota. Toyota Production System is now a days termed as "Kanban system" but actually the kanban is just a part of TPS.

JIT Manufacturing tries to smooth the flow of materials from the suppliers to the customers, thereby increasing the speed of the manufacturing process. JIT can be termed as last moment inventory system as it produces quality products with optimum resources very easily at the time when the product is ordered by the customer. The Just-in-

Time system is not one technique or even a set of techniques for manufacturing, but is an overall approach or philosophy, which embraces both old and new techniques. Now at this era the JIT is introduced and applied to various industries for the betterment of their firms across the globe.

## III. LITERATURE REVIEW

The paper prepared by Kumar Vikas, Garg Dixit And N P Mehta (2004) Supports that JIT has the capacity to increase the operational efficiency, quality and organisational effectiveness of Indian industries. But it is difficult to implement some basic systems in the current or existing production system. To get all the benefits of JIT Indian industries should modify procedures, operations and training the employees to create organisational culture. The issue related are the standardisation, simplification, dealing with suppliers, and re-engineering process. If this issues are not addressed the JIT efforts is bound to encounter human and supplier related problems. However the art of designing the right strategy for implementing JIT in Indian industry is debatable.

The paper prepared by Dr A K Gupta (2011) reviewed JIT in Indian industries as the Indian Industries are in poor condition and to cope up with the global market they should implement the techniques like JIT, which helps to boost the performance of the industries by improving productivity. In reality the implementation of JIT is very difficult as it results in complete change of the organization. JIT also helps in service sector, case studies will help to realise how JIT is useful in this areas.

According to Dr Sultan Singh, Dr Dixit Garg(2011) the JIT system is not new to the present scenario of industrialization. This technique is not limited to any particular country but due to its large potential of benefit it has a widespread application throughout the world. Many industries have adopted it and others are going to implement it for their survival in the fast competition at each stage in each area. Implementing JIT requires organizational changes as well as physical plant changes. Cultural transition barriers such as performance measures, organization structure and pay systems, often make organizational changes a tougher and longer process than the physical changes necessary for JIT. While solution to physical problems exists, JIT implementation often waits for organizational changes to catch up. Sustaining the continuous improvement philosophy of JIT is critically dependent on this organization transition. Implementing JIT requires a plan along with

commitment. This plan should be an integral element in the company's total business plan.

Sandeep Phogat, Dr. A. K. Gupta (2012) In their paper States that JIT is the basic thing behind the manufacturing and the service sectors which helps to produce high quality products at lower price i.e. reducing the cost of production. Global competition is forcing companies to improve the quality of their products and their customer service while reducing the cost of their operations. JIT also can be implemented in the service sector. The activities that would most likely show the greatest potential for the improvement of services through the use of JIT concepts were analysed and discussed. The philosophy of JIT can bring impressive advances in productivity and quality to the increasingly service-dominated economies of the future.

The result of the survey conducted by Sandeep Kumar, Gaurav Garg, Ankit Kamboj & Mandeep Singh (2013) states that JIT has the potential to increase efficiency, effectiveness and the quality of the Indian manufacturing industries. It is found that, there is a difficulty in implementing JIT in Indian industries as it results in organisational change. It also focused on Pre implementation modifications and their impact on reducing implementation problems and on eventual success on JIT project. The potential benefits of JIT to Indian organization are not in doubt. However the art of designing the right strategy for implementing the JIT in Indian industries is still in question and requires further research and analysis.

Tom Jose V, Sijo M T, Praveen (2013) in their case study states that the JIT not only helps the manufacturer but also the customers. It benefits the supplier as there will be increase in productivity, increase in shares, and results in development of new products. It benefits the customer as full time purchasing, production planning, and order fulfilment personnel at no charge, Gets lower ordering processing, inventory handling, and delivery cost, In-plants are continuously involved in cost reduction, quality improvement and value analysis.

P. Vincent Balu, Prof. R. Nesamoorthy (2013) has observed that if a company is not ready to accept the JIT system it will not face global competition. Lack of confidence regarding the change affects the implementation of the JIT system. 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. Implementation of JIT is not a one day affair. It is a continuous process. With the help of JIT in Indian industries, it will make them competitive which will further helpful while entering into the global market. It is found that the PESTAL factors have impact on JIT practices around the world. If these were tried at the right level, then Indian industries will stand high forever.

Sanjay Paliwal, Amit Raj Varshney And D.S. Awana (2013) reported that JIT concept has changed the way of manufacturing organizations do things. The JIT concepts are just opposite to the culture followed by Indian industries. So that the employees of the organization won't allow the top

management to take decision regarding the implementation of JIT system, for this implementation proper training and confidence should be given to the employees.

JIT philosophy is valid in any manufacturing environments, regardless of the level of automation in the technology hardware. Organizations with motivated and well-trained workforce under the leadership of a committed management focus on five areas i.e., solid leadership, team based culture, communication systems, simultaneous development and continuous improvement processes and produces better results with the implementation of JIT. Similarly the JIT is not limited to one industry, now this system is successfully implementing in different industries.

According to Ritesh Kumar Shrivastava, Dr. Sridhar K (2015) this there are barriers to implement the JIT system in Indian industries. By analysing key points and success factors the barriers can be eliminated. Critical Success factors for successful implementation of JIT in any organization some of them are Top management commitment & culture of an Organization, Employee involvement & commitment, Quality, Production etc. The successful implementation of JIT in Indian industries can be achieved by bringing out successful cultural changes & management commitment. The successful JIT implementation need to implement initiatives successfully, so as to improve organizations maintenance performance, productivity, reduce costs, unnecessary downtime, and utilization of resources.

V. Vijaya Lakshmi, Prof. G. V. Chalam (2016) stated that JIT is a concept that is implemented in manufacturing industries. The JIT concept is just opposite to the culture which is followed by Indian industries. The Indian industries should accept the change that is happening when the JIT is implemented. The employees and suppliers should be satisfied with the system. This only happens when there is a positive impact by top management towards the employees. By implementing the JIT savings can be generated by reducing the cost of production and a new productivity ethics can be created that may be helpful to strengthen the Indian economy.

#### IV. FINDINGS

In the present time, implementing JIT in industries is not something new. The availability of this technology is very vast and unlimited and has worldwide acceptance. A large number of industries have now adopted JIT and some other industries are in their process of implementation in order to survive and cope with the increasing competition. The implementation of JIT not so easy and it requires discussion and approval from all departments. First of all, top level management should accept the idea. Then the employees should be made aware about the concept of JIT and its significance. Then an ERP system is required to be setup and then system is required to be tested after implementation of JIT. At last it must be ensured that a proper control system is followed and things are going in right direction.

## V. CONCLUSION

Just in time inventory system is a Japanese concept which is globally accepted. JIT helps industries in global participation. The concept is very useful for manufacturing concerns which helps in increasing productivity by reducing cost of production. JIT focuses on inventory levels of the manufacturing industries. The company should have optimum allocation of resources, organized in such a manner that it wouldn't result in wastage. JIT is only one part of the organization that gives customer satisfaction. JIT can solve almost all the problems in the organization which will result in improvement of the organization.

This system can also be implemented in the service sector. There are barriers for the implementations as the Indian industries are following traditional culture and are difficult to adopt a foreign culture like JIT. JIT practices can help the Indian industries to become more competitive by enhancing their export in world market. But, it is observed that PESTAL factors have a significant impact on JIT practices in different parts of world. If these were tried at the right level, then Indian industries will stand high forever.

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