

Why the Indian Industries fail to implement JIT System: An Analysis

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Abstract

Every organization strives for success, with the satisfaction of their customers by understanding and fulfilling their requirements. In the current scenario, when all the companies moving towards a customer-oriented market the quality improvement and cost control are the most crucial factors for every business. The manufacturing organizations need to have a proper inventory management system because inventories are stored in bulk which also blocks a large part of the capital and ultimately results in waste and space usage. One effective solution for all these problems is the Just In Time (JIT) concept as this method focuses on cost reduction, improves quality, and meets customers' rapid needs. This paper stresses upon the implementation of JIT techniques in Indian Industries.

Keywords: Just in Time, Innovation, Training, Globalization, Planning

Introduction

Every organization always wants to have a minimum cost of production and maximum output. The cost of production is the only factor which is solely responsible for the shutting down and their bankruptcy. So, the organization always looks for some techniques which help in the cost-cutting process.

Globalization has enabled organizations to expand across the globe. In the current dynamic environment, most of the organizations only focus on two main elements that can influence the global market, which are product and service quality and customer satisfaction. To remain in the market as a leader an organization is required to come forward and take some initiatives to enhance the product quality for satisfying the customer's needs and demand that always

change besides minimizing the cost of production. Indian industries are efficient enough to mark their presence across the globe, but due to some factors, failed to prove their true potential. JIT is one of the production strategies which focuses on the enhancement of productivity by reducing process inventory. This technique leads to many changes in management approach, production techniques, employee's behavior, customer expectations, supplier relations as well as competitive behavior. This competition leads to technological advancements, a variety of products and services, and also led to higher customer expectations from companies. These higher expectations have increased the pressure on companies to be more efficient and reliable from rivals else the customer may switch to rival companies and the company's brand image may get affected. Therefore, only

those companies will be able to survive that will deliver the products of good quality at a reasonable price, and to achieve this goal companies are trying to improve their performance by focusing on cost-cutting, increasing productivity levels, quality, and on-time delivery to satisfy their customers. Management always puts its efforts to reduce the manufacturing cost and to improve product quality. To achieve this goal it is necessary to implement some efficient techniques such as JIT which helps in the improvement in the company's performance. With the implementation of JIT, companies can enjoy benefits like reducing costs, meeting customer's demands, stay ahead of competitors, and minimize slack resources that are critical for survival in the increasingly competitive market. JIT is based on the concept of delivering raw materials when needed and producing products when there is a need. The following are the waste elimination methods used by various companies under the technique of JIT:

- Reduction in lot size.
- Group technology layout.
- Scientific organizational framework.
- Mixed model of production.
- Kanban applications.
- Proper scheduling.
- Lead time reduction.
- Flexible and multi-skilled labor force.

This technique results in minimum costs and enhances product quality. With JIT, some organizations managed to cut more than half of inventory. Companies that use JIT can reduce inventory levels and approach zero inventory conditions.

Background to the Research

The recent study has unveiled some vital factors that the quality maintenance and good communication are not very difficult to implement but other critical elements like

multi-skilled labor, supplier relations, cooperation from labor and top management commitment is quite cumbersome, which infers that JIT execution in India is marginally troublesome, yet not feasible. All the sectors have considered Quality Management as a vital factor for effective JIT execution. It is notable that JIT frameworks try to give an authoritative system to taking care of organizational problems.

Literature review of JIT manufacturing

High inventory holdings are generally identified as poor management. JIT is a systematic approach that minimizes inventory by having supplies arrive at production and distribution places only when needed, usually in small batches also producing products when there is a need, improve the quality of the product. JIT has given a new vision for planning and performing to manufacturing. The main purpose of JIT is to reduce all waste from the entire supply chain and to improve product continuously. JIT implementing firms can derive the best out of this technique by introducing the concept of product customization. Broadly JIT is an approach of achieving perfection in a manufacturing company by continuous elimination of wasteful activities. Nearly, JIT refers to the movement of inventory at the required place at the required time. It is a systematic program for enhancing overall production efficiency and reducing waste.

Purpose of the study

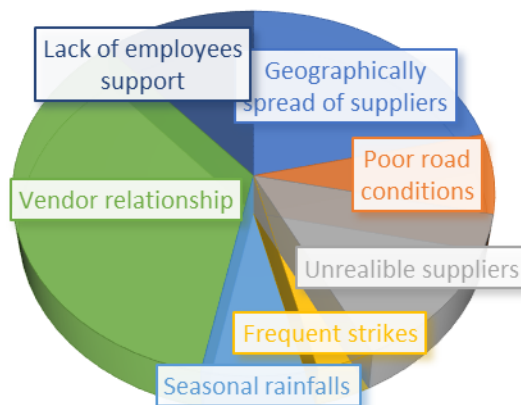
This paper stresses upon the failure of Just in Time technique in the Indian industries. The main goal of this research study is to show the effects of the JIT system on Inventory management systems, to highlight both the positives and negatives effects of JIT on inventory. This information will provide knowledge as to why it is important for organizations to implement JIT and which organizations will benefit most from this system. This study is to elaborate on the JIT application in inventory management in manufacturing industries.

Company Overview

Maruti Udyog Limited (MUL) was established by the government of India in Feb 1981 for meeting the growing demand for a personal mode of transport caused by the shortage of an efficient public transport system. Suzuki motor company (SMC) was chosen from prospective

partners. To actively bring to MUL technology and Japanese management practices. In the early 1980s, neither Indian suppliers nor the prevailing institutional modes of supplier relations were fit to provide and develop the inputs which MUL's production system demanded.

FACTORS RESPONSIBLE FOR THE FAILURE OF JIT IN MUL'S INITIAL STAGE



Source:

Secondary

Data

But at first, the implementation of JIT in MUL was not so much success due to high geographically spread of MUL suppliers, poor transportation conditions, unreliable suppliers, frequent strikes and seasonal rainfalls, and most importantly it was very difficult to win the trust of existing Indian suppliers in the initial stage of JIT.

After World War II, most Japanese companies, including automakers, were facing

challenges and struggling to survive. At the time, a reduction in auto demand and the high costs of production results in hardship for automakers, including Toyota. It started using the Just-in-Time method in 1938. However, the potential of this system was realized when it integrated this strategy with TPS. The company identified that this technique was based on the concept of "the complete elimination of all waste." Toyota managed all the factors affecting JIT very efficiently and able to derive the best out of it.

Toyota Vehicle Sales

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Global	5,154	5,262	5,519	6,070	6,708	7,268	7,922	8,429	7,996	6,960	7,528	7,097
Emerging Markets	960	987	1,142	1,417	1,695	2,027	2,246	2,658	2,849	2,646	3,145	3,193
Composition Ratio	18.8%	18.8%	20.7%	23.3%	25.3%	27.9%	28.4%	31.5%	35.6%	37.9%	41.8%	45.0%

Thousands of units

Source:

Secondary

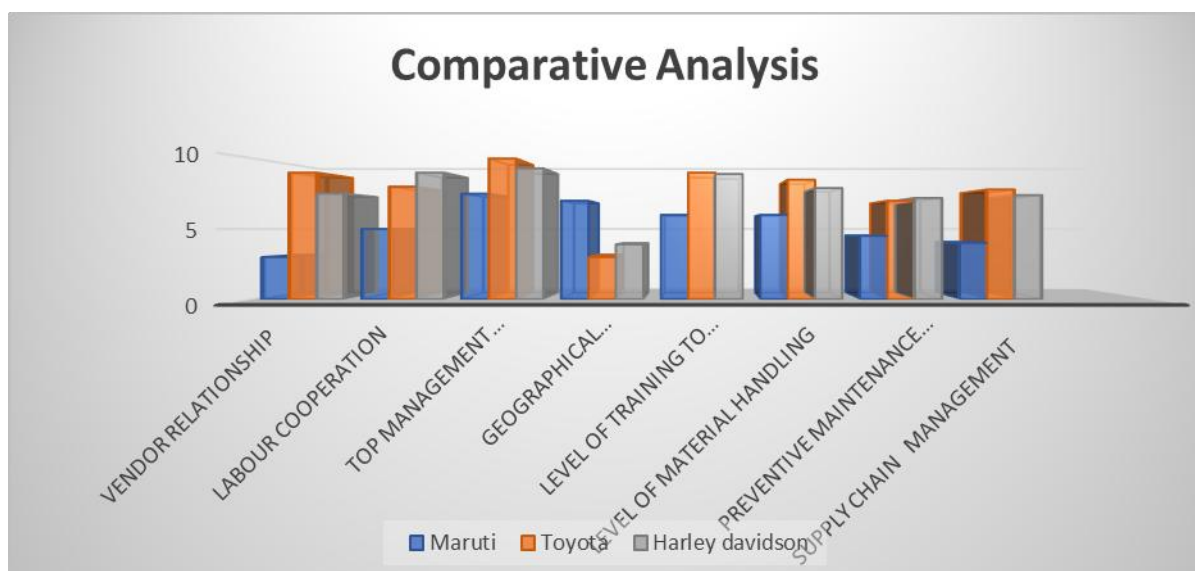
Data

Harley-Davidson was established in 1903 in Milwaukee. In 1969, Harley collaborated with American Machine and Foundry. The mid-'70s were boosting years for Harley due to the merging. They began to fabricate heavyweight cycles, so they expanded production. Unfortunately, due to over exhausting and poor quality levels in the mid-'70s, a sharp decrease in sales happened. However, it was understood that there is a quality issue, they realized that another beginning must be made. Not many of Harley's representatives bought the organization back, yet because of the downturn in the mid '80s, a general decrease in the motorcycle market chop down the

production. The top administration headed out to Japan, their rivals, to discover how the Japanese manufacturing plants were run. They saw that it was not the innovative frameworks, yet the effective association of the workers and create frameworks that had the effect. Harley diminished the arrangement time and changed to a without a moment to spare assembling and gracefully chain the board. They moved from a push framework to a force framework and their providers additionally required to have measurable administrator controls and worker inclusion programs. After the downturn, Harley-Davidson was back on the path.

Data analysis

PARAMETER	MARUTI	TOYOTA	HARLEY
Vendor relationship	Average	Excellent	Very good
Labor cooperation	Good	Very good	Excellent
Top management commitment	Very good	Excellent	Excellent
Geographical concentration	Very high	Low	Low
Training to employees	Good	Excellent	Very good
Efficiency in material handling	Average	Very good	Very good
Preventive maintenance level	Average	Good	Good
Supply chain management	Good	Excellent	Excellent



Source: Primary & Secondary data

After experiencing failure at the initial stage of JIT implementation MUL, does not abandon

JIT instead, they focused on their key and lacking areas and turned all the factors

favorable which were against it and able to

earn the highest revenue.

MANUFACTURER	REVENUE	NET PROFIT	PROFIT %	NET WORTH	ROI
Maruti Suzuki	58,208	4,571	7.9%	27,007	17%
Tata Motors	44,503	234	0.5%	22,368	1%
Mahindra & Mahindra	41,740	3,167	7.6%	21,707	15%
Hyundai	32,113	1,291	4.0%	7,103	18%
Toyota	14,030	505	3.6%	1,792	28%
Honda	12,874	363	2.8%	1,374	26%
Ford	12,007	-780	-6.5%	4,507	-17%

Source: Secondary Data

Implementation criteria:-

Implementation of JIT is not a one-day affair. It is a continuous process. Generally, the company fails to implement the JIT system when they are technologically inefficient, improper selection of supplier or bad trade relations with supplier, poor communication process, lack of support and discipline among employees, lack of top management commitment. JIT techniques have enabled the Indian industries to boost their efficiency by enhancing their supply in the global market.

The following tools are playing a crucial role in implementing JIT successfully.

Training

Training leads to enhancement of employee's skills and leads to their overall development and helps them to attain specialization in their target job. With investment in training and development company makes their employee's multi-functional, develops better problem-solving temperaments. Therefore, efficiency in quality is accomplished through training.

LongTerm Planning

Planning is not a one-time affair it needs to be done by analyzing all the alternatives which help to achieve or reap the company's long term objectives. This requires continuous improvements and corrective approaches. However, it is notable that the advantages of

JIT start coming even in the initial phases of its execution.

Labour and Employees

Workforce plays a very vital for the success of Jit because ultimately the job is to be executed by the workers only and inefficient workers may lead to wasteful activities and ineffectiveness in order completion. Therefore, JIT demands multi-functional workers with the flexibility to switch over.

Management Support Complete management

Generally, top management wants to retain the power of operation in their hands which often leads to an increase in lead time. Cooperation is required in the implementation of JIT. For the elimination of efficiency related issues and reduction in inventory levels, the support of management is must.

Supplier Management

The Company can enhance its relationship with vendors by following fair trade policies and offering some incentives because a vendor is the most crucial factor that is solely responsible for the successful implementation of JIT. Suppliers are treated as partners and are skilled in efficiency and production maintenance, Inorder to avoid delivery of defective. But the company needs to take

extreme care while choosing and developing vendors in a JIT environment.

Challenges in JIT implementation

Reduction in Safety stock

India being a developing country faces technological inefficiency in many areas, still in many companies Traditional system of production is followed which encouraged the concept of safety stock due to the benefits of surplus resources. However, modern production system discourage the maintenance of Safety stock due to the benefits acknowledged from their absence. For ex- In 1992 due to the strike , United Automobile Workers v General Motors parts plant confronted crisis, Within five days, four assembly factories were shut, further within the next three days, seven more major assembly factories were shut because of the absence of parts and create a hazardous problem for the company in this stiff global competition. So it is important to estimate a desired level of inventory.

Improper vendor and methods of production

The company needs to have a healthy relationship with its supplier to ensure timely delivery of raw material and a company is only able to build a good relationship with its suppliers when it has chosen a suitable vendor. Reduction in the Lead time is a big challenge to the company because of the ill-advised production practices that have been followed in the traditional production system. The case of Honda Motor Company in which a man got squashed on the rear door welding line due to a speed-up in production. This indicates a absence of attention and work discipline among workers. Other challenges are improper methods of procuring material, etc. The solutions to these improper manufacturing practices include redesigning the Pull based manufacturing mechanism, promoting teamwork, reducing job classification, imparting cross-training, etc.

Reduction in Setup

Time management and execution of JIT implies a decrease in accessible time setup, a challenge to JIT. This shows that there exists a challenge of inventory management in JIT post the reduction in Setup time. Reduced Setup time in JIT shows weak internal processes results in accumulation of Work in Progress and Finished goods inventory, leading to increased organizational inventory management expenses due to the excess inventory, more space needs, decreased efficiency, and effectiveness, etc.

Introduction of Product Customization with JIT

Globalization has enabled customers to enjoy a variety of products and services available across the globe. Customer's needs, wants and demands are ever-changing and to survive successfully and to remain as a leader, the company must identify all these needs and analyze them to create product offerings. But a large part of capital is blocked in the research and development alongside the cost of production and on-time delivery. But JIT enabled the companies to focus on the key areas like market research and customer satisfaction by reducing the cost of production and the above benefits. To become a global leader company must apply the technique of 'Product Customization'. Product customization helps a company to develop a product as per the customer's taste, preference, needs, and wants. For example- Skinskraft is a Hyderabad-based company that uses user data to customize the needs, wants, and preferences to develop the product for its customers. Similarly, other companies also try to introduce the concept of Product Customization as it enables the company to develop brand image and loyalty for the company because a customer is solely responsible for the success of every organization, and by implementing this with JIT a company can do wonders in the global market.

Conclusion and Recommendation

From the study it may be concluded that companies can have lower performance rates, the reason being that it has not implemented the Just-In-Time system in the inventory

management system. It can be noted from many successful pieces of research that JIT does affect the inventory management system and how the company performance overall. Therefore, it is highly advised to organizations in the manufacturing industry implement the Just-In-Time method in their inventory management systems. This method requires that organizations have a good relationship with their customers, as JIT highly depends on the performance of your vendors. Close and reliable vendors make the implementation of the process much easier and more efficient.

The company's management needs to impart training to its employees before the full implementation of JIT because without training employees may be able to understand the essence of JIT and may end up losing attention to it and ultimately leads to wasteful activities. Management should apply the 'Principle of Order' which helps to eliminate unnecessary and wasteful movements, they must ensure that materials will be around at the workplace which will reduce the time for searching of material and ultimately reduces lead time. The successful implementation of the JIT program focuses on addressing the organization's problems, boosting purchasing, production, efficient use of the workforce, and timely delivery of finished products. In recent years, many organizations have shown significant improvements in business through JIT implementation. Thus, companies can do a remarkable job with the implementation of JIT, and by realizing its objective companies can give stiff competition in the global market. From above the study, it is revealed that the successful JIT implementation program can enable an organization to gain an edge over the others for attaining scaled manufacturing performance and delivering the products of good quality and at reliable rates.

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