

JIT technique

JIT inventory is a strategy to increase efficiency and reduce waste by receiving goods only as needed in the production process, thus reducing inventory costs. In other words, JIT inventory refers to an inventory management system that aims to make inventory readily available to meet demand, but not to a surplus where you have to store additional products.

`Just-in-time' is a management philosophy and not a technique.

It originally referred to the production of goods to meet customer demand exactly, in time, quality and quantity, whether the `customer' is the final purchaser of the product or another process further along the production line.

It has now come to mean producing with minimum waste. "Waste" is taken in its most general sense and includes time and resources as well as materials.

Elements involved in JIT

Continuous improvement:

- Attacking fundamental problems and anything that does not add value to the product.
- Devising systems to identify production and allied problems.
- **Simplicity:** Simple systems are simple & easy to understand, easily manageable and the chances of going wrong are very low.
- **A product:** oriented layout for less time spent on materials and parts movement.
- Quality control at source to ensure every worker is solely responsible for the quality of their own produced output.

Eliminating waste: There are seven types of waste:

1. Waste from product defects.
2. Waste of time.
3. Transportation waste.
4. Inventory waste.
5. Waste from overproduction.

Processing waste

Waste minimization is one of the primary objectives of Just In Time system. This needs effective inventory management throughout the whole supply chain. Initially, a manufacturing entity will seek to reduce inventory and enhance operations within its own organization. In an attempt to

reduce waste attributed to ineffective inventory management, SIX principles in relation to JIT have been stated by Schniededans and they are:

1. Reduce buffer inventory.
2. Try for zero inventory.
3. Search for reliable suppliers.
4. Reduce lot size and increase the frequency of orders.
5. Reduce purchasing cost.
6. Improve material handling.

Examples of JIT

JIT's inventory management today is used by companies in industries ranging from retail to fast food to technology. Toyota is one of the most famous examples of timely manufacturing because it was simply one of the first to effectively implement this strategy. Here are some other examples of JIT in action:

Apple

This consumer electronics giant is keeping the least amount of inventory possible. By reducing the amount of inventory on hand, Apple carries a lower risk of stockpiling the inventory in its warehouse. As Tim Cook, Apple CEO, explained, "Inventory is basically an evil. You kind of want to manage it as if you were in the dairy business. If you exceed its freshness, you will have a problem."

Kellogg

Given that Kellogg produces mostly perishable products, it should come as no surprise that it uses the Just in Time stock management method as an effective inventory management system. Kellogg makes sure that just enough products are made to meet orders and that limited stock is on hand.

Xiaomi

Similar to Apple, Xiaomi manages a small stockpile by launching limited quantities of its mobile phones per week. The disadvantage of this strategy is that eager consumers have to wait for items to reach stores - leading to potential sales loss. However, Xiaomi still benefits from lower costs and eliminated waste.

Advantages of Adopting Just-In-Time

- a) Timely approach keeps stock keeping costs to a minimum. The released capacity results in a better use of the space and has a positive effect on the insurance and rental premiums that would otherwise be required.

- b) Timely approach helps in waste disposal. Opportunities for expired products do not arise at all.
- c) According to this management method, only the basic stocks required for manufacturing are obtained, and therefore working capital is less required. Under this approach, the minimum reorder level is set, and only when this level is reached, a request is made for a new stock and thus this becomes a boon for inventory management as well.
- d) Given the low equity level mentioned above, the return on investment (ROI) for organizations is generally high.
- e) JIT emphasizes the "right for the first time" concept, so that rework and inspection costs are reduced.
- f) By following JIT, greater efficiency and quality products can be derived.
- g) Better relationships are strengthened along the production chain under the JIT system.
- h) High customer satisfaction due to continuous communication with the customer.
- i) Just In Time eliminates overproduction.

Disadvantages of Adopting JIT Systems

- a) JIT's approach states zero tolerance for errors, which makes rework difficult in practice, as stocks are kept to a minimum.
- b) Successful application of JIT requires heavy reliance on suppliers, whose performance is outside the manufacturer's jurisdiction.
- c) Since there are no buffers in the JIT, a slowdown in the production line and downtime can have an unfavorable impact on the production process as well as on finances.
- d) There is a very high probability that the unexpected increase in orders will not be met as there will be no excess inventory of finished goods.
- e) Transaction costs will be relatively high, depending on the frequency of the transactions.