



Just In Time

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Why JIT?

- ✍ In Kaizen, JIT is a collection of concepts and techniques for improving productivity. JIT is a process aimed at increasing value-added and eliminating waste by providing the environment to perfect and simplify the processes.



What is JIT?

- ✍ JIT is producing
 - ✍ the necessary items
 - ✍ in necessary quantities
 - ✍ at the necessary time.
- ✍ In JIT Non-value-adding activities (or wastes) are identified and removed.
- ✍ Push Vs Pull Based

Wastes in the Production Process



- ✍ Overproduction
- ✍ Waste time spent at the machine
- ✍ Waste involved in the transportation of units
- ✍ Waste in processing
- ✍ Waste in taking inventory
- ✍ Waste of motion
- ✍ Waste in the form of defective units

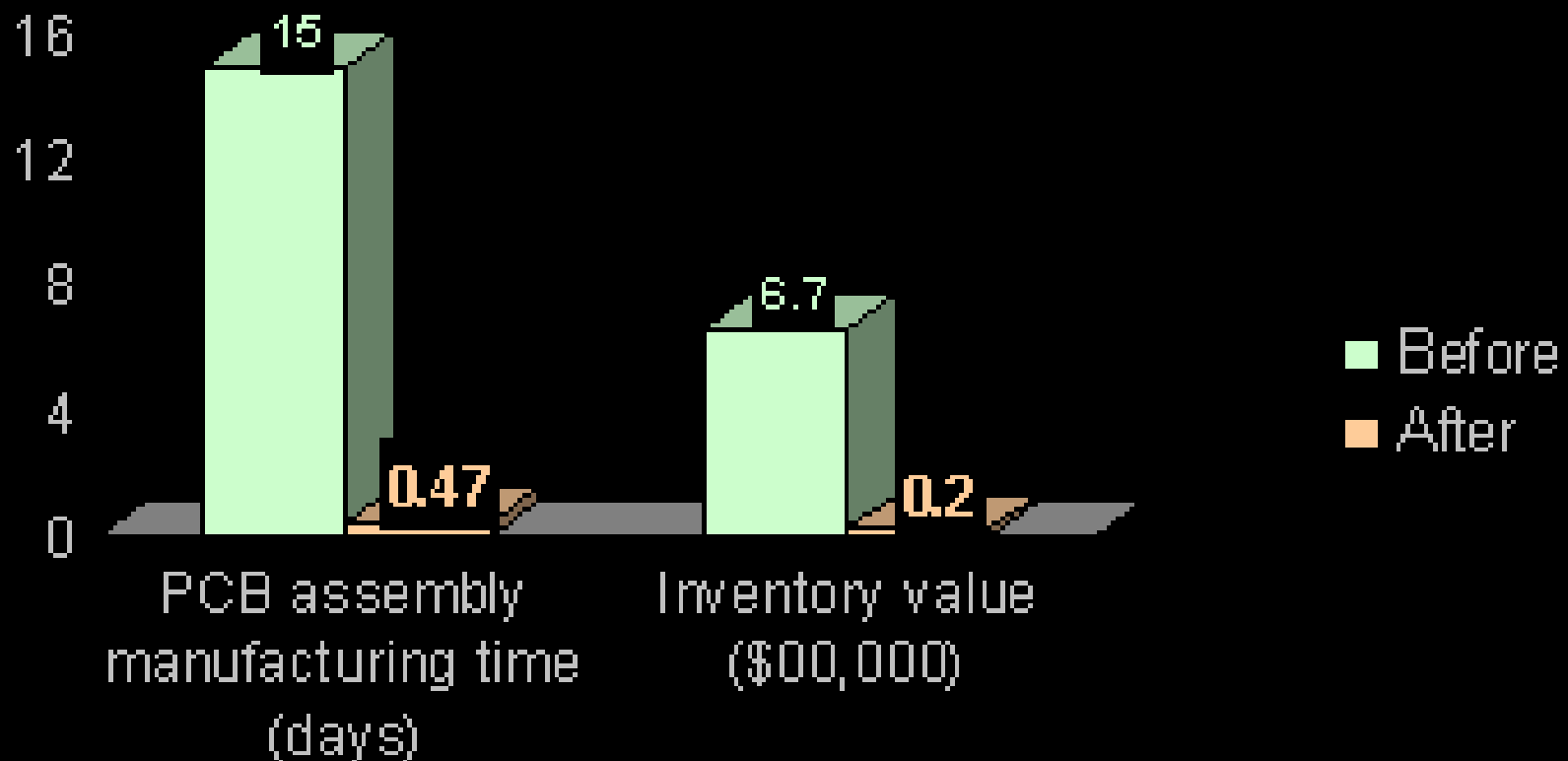


Benefits

- ✍ Reduced operating costs
- ✍ Greater performance and throughput
- ✍ Higher quality
- ✍ Improved delivery
- ✍ Increased flexibility and innovativeness

Just-In-Time (JIT) Manufacturing: Implementation by Hewlett Packard

- Manufacturing time for the assembly of 31 circuit boards reduced from 15 days to 11.3 hours
- The value of inventory fell from \$670,000 to \$20,000





JIT Components

- ✍ Production Leveling
- ✍ Pull System
- ✍ Kamban (label or signboard) system
- ✍ Good Housekeeping
- ✍ Small Lot Production
- ✍ Setup Time Reduction
- ✍ Total Preventive Maintenance (TPM)
- ✍ Total Quality Control (TQC)
- ✍ JIT Purchasing
- ✍ Line Balancing
- ✍ Flexible Manufacturing
- ✍ Small-group Activities (SGA)



Kamban

- ✎ Kamban, meaning label or signboard, is used as a communication tool in JIT system. A kamban is attached to each box of parts as they go to the assembly line. A worker from the following process goes to collect parts from the previous process leaving a kamban signifying the delivery of a given quantity of specific parts. Having all the parts funneled to the line and used as required, the same kamban is returned back to serve as both a record of work done and an order for new parts. Thus kamban coordinates the inflow of parts and components to the assembly line, minimizing the processes.



JIT Advantages

- ✍ Shortened lead time
- ✍ Reduced time spent on non-process work
- ✍ Reduced inventory
- ✍ Better balance between different processes
- ✍ Problem clarification



JIT Training and Learning

- ✍ The best kind of quality oriented learning (and training) is just-in-time-style learning, that is, learning that happens on the job and knowledge which is applied immediately as needed.
- ✍ The sooner you can apply the material you learned, the better you will understand it and the longer it will be retained.
- ✍ Instead of training masses of employees for long periods, in JIT-style training, education is implemented as an ongoing series of short sessions (just a few hours a week) during which employees are taught only what they can apply soon, without suffering information overload.



Barriers to Successful JIT

- ✍ Lack of long-term commitment and leadership for management
- ✍ Insufficient empowerment of workers