

Chapter 14: Modern Trends in Management

Work in manufacturing and operations will become more exciting and challenging in the years ahead. How well *processes are managed* will decide whether economics of the entire nation will improve or decline. To meet these challenges, manufacturing firms are now adopting *new methods* and are applying *new technology*. In addition to this, companies are trying to gain or retain the market share by offering customers better value by improving product quality and achieving higher productivity.

Just in time approach: The JIT approach has its roots in the KANBAN system of material flow pioneered by Toyota Motor Company.

- The first view of JIT is as a form of production scheduling and inventory management whereby the products are produced to meet actual demand and materials for each stage of production are received or produced “just in time” for use in the next stage of production or for delivery to the customer. This definition of JIT is called **Little JIT**.
- The other view of JIT is as a revolutionary approach to manufacture by Japanese firms in which the entire way the products are designed, work is organized and responsibilities are assigned is changed drastically and a constant striving for improvement and elimination of waste is instilled. This approach to manufacture is referred to as **Big JIT**.
- The term “**Lean Production**” was first used by Womach, Jones and Roos in their landmark study of the automobile industry and in their book titled “The machine that changed the world”. Now-a-days, firms speak of “going lean”, “lean manufacturing”, “lean retailing” and “lean supply chains”.
- The basic ideas behind Big JIT or lean production are:
 - Work in progress (WIP) inventory is reduced to the barest minimum.
 - JIT is a pull system: Production at each stage is initiated only when requested.
 - JIT extends beyond the plant boundaries—supplier partnerships ensure that deliveries are made on “as needed” basis.

- The benefits of JIT extend beyond savings of inventory related costs: quality problem can be identified earlier, rework and inspection of finished goods are minimized.
 - The JIT approach requires a serious commitment from top management and workers alike.
- **Lean Production Systems:** These systems consist of processes that have been designed to minimize their inherent wastes-of time, materials and money. Lean production systems use minimal amount of resources to produce a high volume of high quality goods with some variety. The name “Lean Production Systems” has come to be used because these systems use much less of certain resources than the mass production systems use, i.e., less space, less inventory and fewer workers to produce a comparable quantity of output. These systems use a highly skilled workforce and flexible equipments.

Total Quality Management:

- Total Quality Management is a philosophy that involves everyone in an Organization in a continual effort to improve quality and achieve customer satisfaction.
- TQM is the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services. The goal is customer satisfaction.
- Total Quality Management (TQM) are sweeping “culture change” efforts to position a company for greater customer satisfaction, profitability and competitiveness.
- TQM may be defined as managing the entire organization so that it excels on all dimensions of products and services that are important to the customer.
- It is necessary to achieve successful internal working relations in order to satisfy external customers.
- A process is a combination of methods, materials, manpower and machines. All processes contain inherent variability. Our approach must be

to progressively reduce variation thus improving process capability and become more consistent.

- We must measure everything how we are doing at present. What are METRICS? Measure Everything That Results In Customer Satisfaction.
- Teamwork can provide a real opportunity for people to work together to achieve quality improvement. Bringing people together in teams with the common goal of quality improvement aids communication between departmental and functional activities. Teamwork slowly breaks down the communication barriers and acts as a platform for change. Communication is an important two-way process. It must be strengthened.
- Teamwork enables a group of people to work as a task force, solving cross functional problems.
- Prevention of defects is necessary to ensure that failures will not occur. Failure Mode and Effects Analysis is one of the very effective methods for prevention of defects in design as well as process/system.
- Improving the process to get less than 3.4 defects per opportunity is called as **Six Sigma process**. Organizations are adopting this six sigma methodology to excel in their business.
- Innovation Management is required to continuously make the business profitable, by knowing and fulfilling the future requirements of customers.

The world class supply management:

- The major developments in the field of supply management are:
 - **Cross-functional teams:** Cross functional teams are used to meet specific stated objectives such as new product development or negotiations of all terms and conditions of a purchase agreement.
 - **Supply chains and supply networks:** The supply chain is the upstream portion of the firm's value chain. It is responsible for ensuring that the right materials, services and technology are purchased from the right source, at the right time, in the right quality. The supply chain is a series of organizations extending all the way back to firms which extract materials from Mother Earth. All the members of this supply chain perform a series of value-adding

- activities and produce the finished goods and services purchased by the ultimate customer.
- **Supplier partnerships and alliances:** Major categories of supply relationships are:
 - Arm's length relationships: Vendors, Traditional suppliers, Certified suppliers
 - Collaborative relationships: Partnership type relationship, Strategic alliance
 - **Strategic sourcing:** Strategic sourcing identifies new materials and technologies and the activities of the competitors. The four principles that differentiate strategic sourcing from traditional purchasing are:
 - Defining the total value of the relationship between the buyer and the supplier
 - Developing solutions based on a deep understanding of the economies of the supplier and the dynamics of the business.
 - Using differentiated purchasing tactics in order to optimize the economic relationship for both buyer and supplier
 - Imbedding the required changes in the organization so that the buyer achieves not only measurable performance improvement in the short term but also the ability to improve on a continuous basis.
 - **E-procurement:** The non-value adding activities and paperwork processing of buyers are eliminated by E procurement. The internal end user of an item or service need not depend on the purchasing personnel and is now empowered to place orders through the internet directly on the suppliers who are selected by the sourcing teams.
 - **Outsourcing:** Outsourcing can offer greater budget flexibility and control. Outsourcing lets organizations pay for only the services they need, when they need them. It also reduces the need to hire and train specialized staff, brings in fresh engineering expertise, and reduces capital and operating expenses.

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