ERP (21-550)
Advanced Manufacturing Laboratory
Department of Industrial Engineering
Sharif University of Technology

Session #13

Course Description

- **Instructor**
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- **Class time**
  - Sunday-Tuesday: 16:30-18:30
  - Wednesday: 09:00-12:00

- **Course evaluation**
  - Mid-term: (30%)
  - Final exam: (40%)
  - Quiz: (5%)
  - Exercise: (10%)
  - ERP Lab: (15%)
Course Description (Continued ...)

- **Mid-term session:**
  - Sunday: 8th Azar 1394, 16:30 ~ 18:00

- **Final Exam:**
  - Sunday: 27th Dey 1394, 09:00 ~ 10:30

- **Reference:**

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Course Description (Continued ...)

- **Mid-term session:**
  - Sunday: 8th Azar 1394, 16:30 ~ 18:00

- **Final Exam:**
  - Sunday: 27th Dey 1394, 09:00 ~ 10:30

- **Reference:**
Course Description (Continued..)

• Contents:
  • Enterprise Management
  • Operations Management
  • The Evolution of ERP Systems: A Historical
  • Organizations and organizational structures
  • Scheduling
  • Purchasing and inventory management
  • Marketing considerations
  • ERP selection and implementation

Course Description (Continued..)

• Contents:
  • Enterprise Management
    • History of Enterprise Resource Planning
  • The Theory of Constraints and ERP
  • Sales and Operations Planning
  • Buffer Resource Strategy
  • Enterprise Resource Management
  • Integrating the Supply Chain to Reap the Rewards
  • Strategic Sourcing and Procurement
Enterprise Management

- Contents:
  - Strategic Sourcing and Procurement
    - During the 1940s and 1950s, the largest component of the cost of goods sold was labor.
    - In some companies this cost was around 50%.
      - This led to the Taylor labor movement and the focus on labor productivity.
      - The labor focus gave rise to our cost accounting methods where overhead is typically spread based on the production labor hours.
    - For almost 50 years, management has focused on the shop floor and how labor efficiencies can be improved.
    - North American managers continue to search for inexpensive offshore labor even though labor is now less than 10% of the current cost of goods sold.
    - Asian and European managers have begun to develop strategic sourcing agreements that move production closer to the market.

Enterprise Management

- Contents:
  - Strategic Sourcing and Procurement
    - In the 1990s, the cost landscape changed drastically.
    - For most companies labor is an increasingly small part of costs.
    - On average the cost of material for an enterprise comprises about 60 to 80% of total cost.
    - Hal Mather at the World Symposium in 1997 claimed that the cost of logistics had exceeded the cost of labor for most manufacturing companies worldwide.
Enterprise Management

- Contents:
  - Strategic Sourcing and Procurement
  - Supplier partnership characteristics
  - As the company moves to effective Supply Chain Management, supplier partnerships are formed to provide a win-win relationship between customer and supplier.
  - Supplier partnerships are characterized by:
    - Longer contracts
    - More exclusivity in agreements
    - Fewer (but better) suppliers
    - Higher volume between buyer and supplier
    - Lower prices
    - Quality at the (supplier) source
Enterprise Management

Contents:
- Strategic Sourcing and Procurement
  - Supplier partnership characteristics
  - As the company moves to effective Supply Chain Management, supplier partnerships are formed to provide a win-win relationship between customer and supplier.
  - Supplier partnerships are characterized by:
    - Supplier centered design
    - Frequent delivery of small lots
    - Less burdensome order conveyance.
    - Delivery to point of consumption
    - Mutual openness

A big key to successful supplier partnerships is mutual trust and openness.
Successful strategic sourcing is dependent on a number of different factors. These include:
- Financial stability
- Management commitment to excellence
- Design and technology strength
- Quality capabilities
- Cost leadership
- Service and flexibility
- Manufacturing skills
- Just in Time (JIT) development
- Employee Participation
Enterprise Management

- Contents:
  - Strategic Sourcing and Procurement
  - Supplier Relationship Management
  - Enabling supplier relationship management has been one of the hottest growth areas in technology.
  - The big issues in supplier relations management are:
    - Lack of visibility and control over all categories of spending
    - Silo supply solutions and processes
    - Inefficient communication with suppliers
    - Manual, labor-intensive processes
    - Not leveraging complete supply base
    - No single integrated insight into activity, performance, or spend
Enterprise Management

- Contents:
  - Strategic Sourcing and Procurement
    - Supplier partnership cautions
      - Be careful not to overload one supplier.

    - Ensure a philosophic fit.

    - Complete contingency planning.
Enterprise Management

Contents:
- Strategic Sourcing and Procurement

A hybrid approach to select the best sourcing policy using stochastic programming

M. Keyvanloo, A.M. Kimeagari, A. Esfahanipour

Course Description (Continued.)

Contents:
- Operations Management
  - Operations Planning (Material and Capacity Requirements Planning)
- Product Life Cycle Management
- Manufacturing Execution System
- Distribution