

ACS-1803

# Introduction to Information Systems

Instructor: Victor Balogun

## Functional Area Systems – Production / Operation Systems

Lecture Outline 5, Part 4

# Examples: Functional Area Info Systems

Functional Area	Information System	Examples of Typical Systems
Accounting and Finance	Systems used for managing, controlling, and auditing the financial resources of the organization	<ul style="list-style-type: none"> <li>■ Inventory management</li> <li>■ Accounts payable</li> <li>■ Expense accounts</li> <li>■ Cash management</li> <li>■ Payroll processing</li> </ul>
Human Resources	Systems used for managing, controlling, and auditing the human resources of the organization	<ul style="list-style-type: none"> <li>■ Recruiting and hiring</li> <li>■ Education and training</li> <li>■ Benefits management</li> <li>■ Employee termination</li> <li>■ Workforce planning</li> </ul>
Marketing	Systems used for managing new product development, distribution, pricing, promotional effectiveness, and sales forecasting of the products and services offered by the organization	<ul style="list-style-type: none"> <li>■ Market research and analysis</li> <li>■ New product development</li> <li>■ Promotion and advertising</li> <li>■ Pricing and sales analysis</li> <li>■ Product location analysis</li> </ul>
Production and Operations	Systems used for managing, controlling, and auditing the production and operations resources of the organization	<ul style="list-style-type: none"> <li>■ Inventory management</li> <li>■ Cost and quality tracking</li> <li>■ Materials and resource planning</li> <li>■ Customer service tracking</li> <li>■ Customer problem tracking</li> <li>■ Job costing</li> <li>■ Resource utilization</li> </ul>

# Functional Area Information Systems

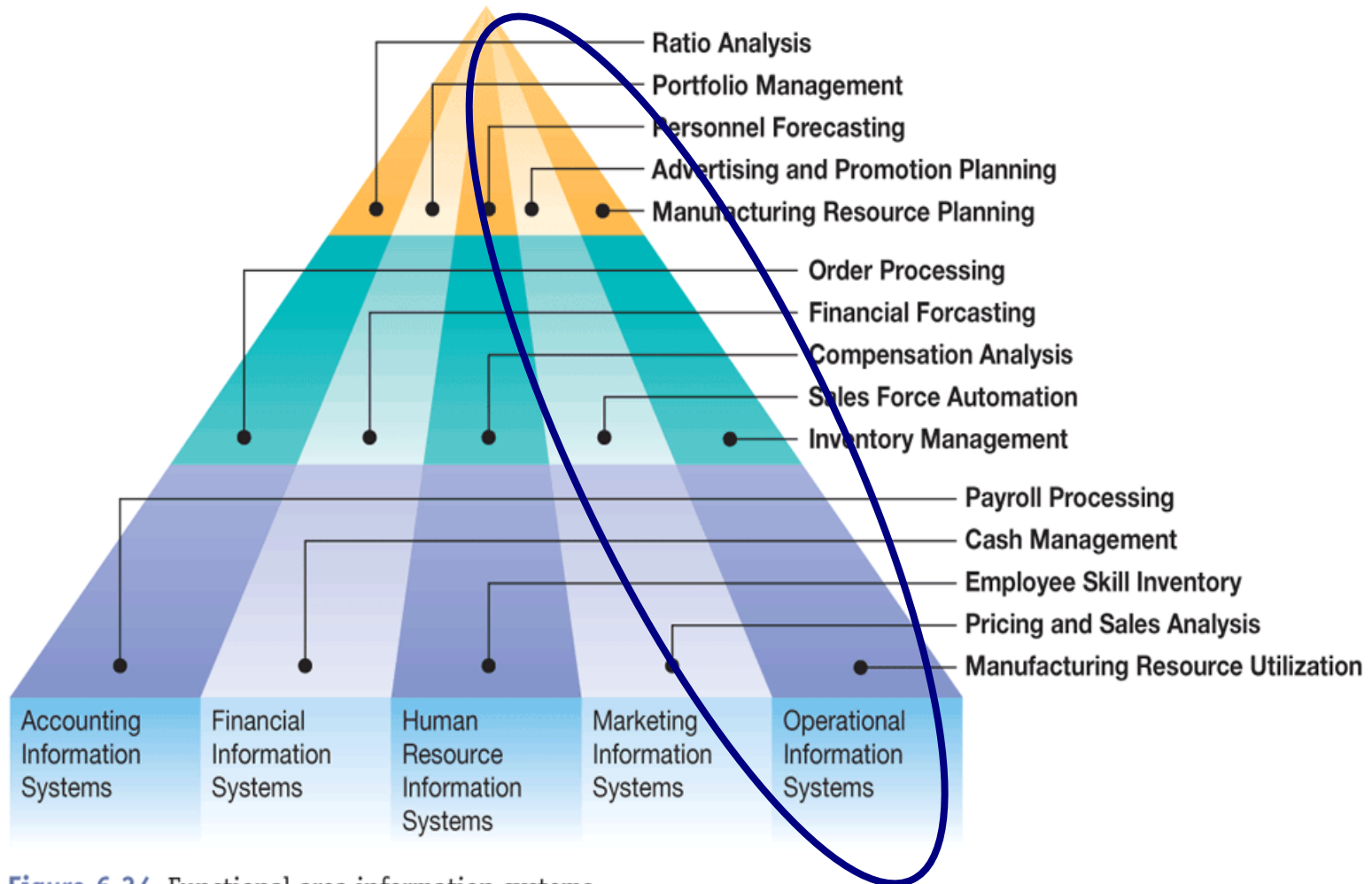


Figure 6.34 Functional area information systems.

Copyright © 2008 Pearson Education Canada

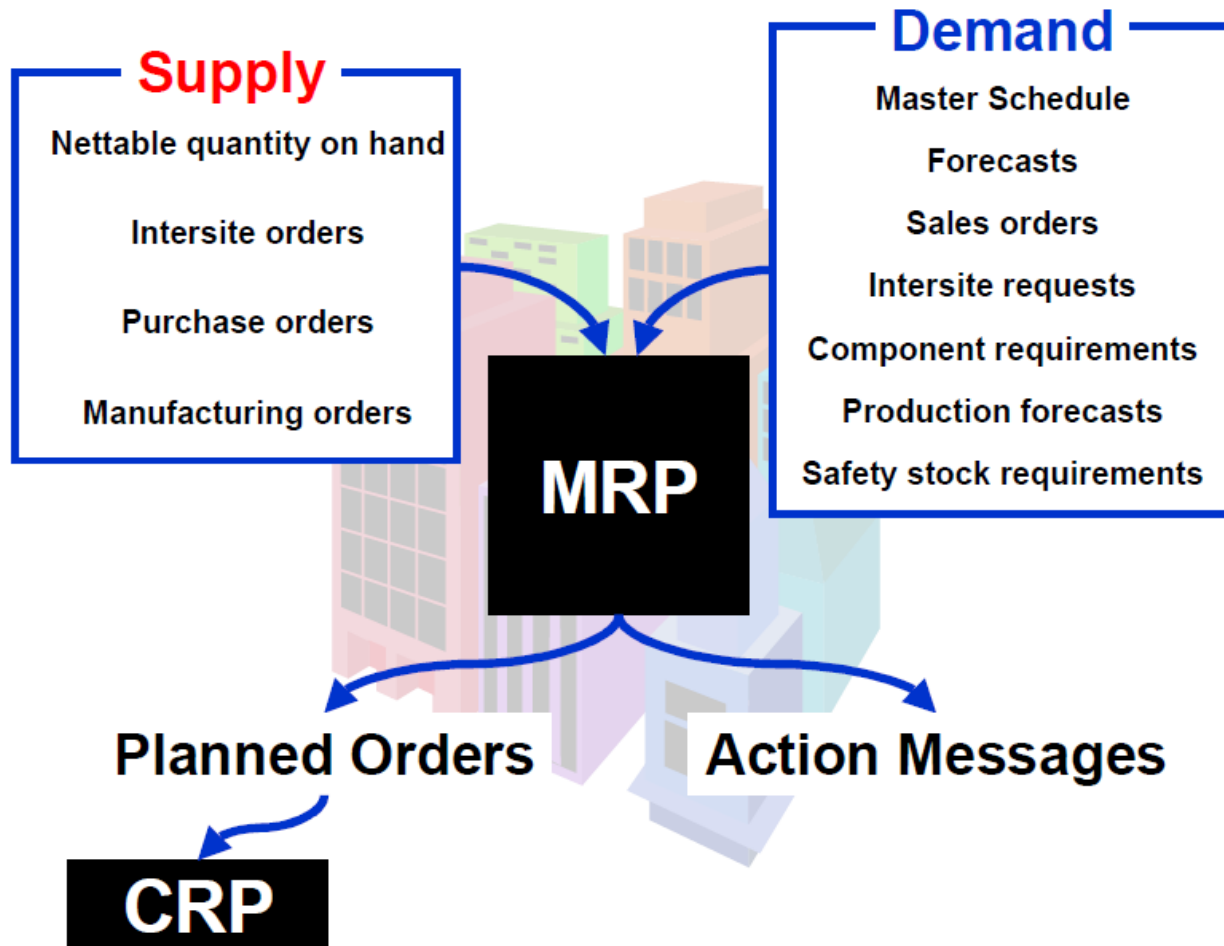


# Computers in Manufacturing

---

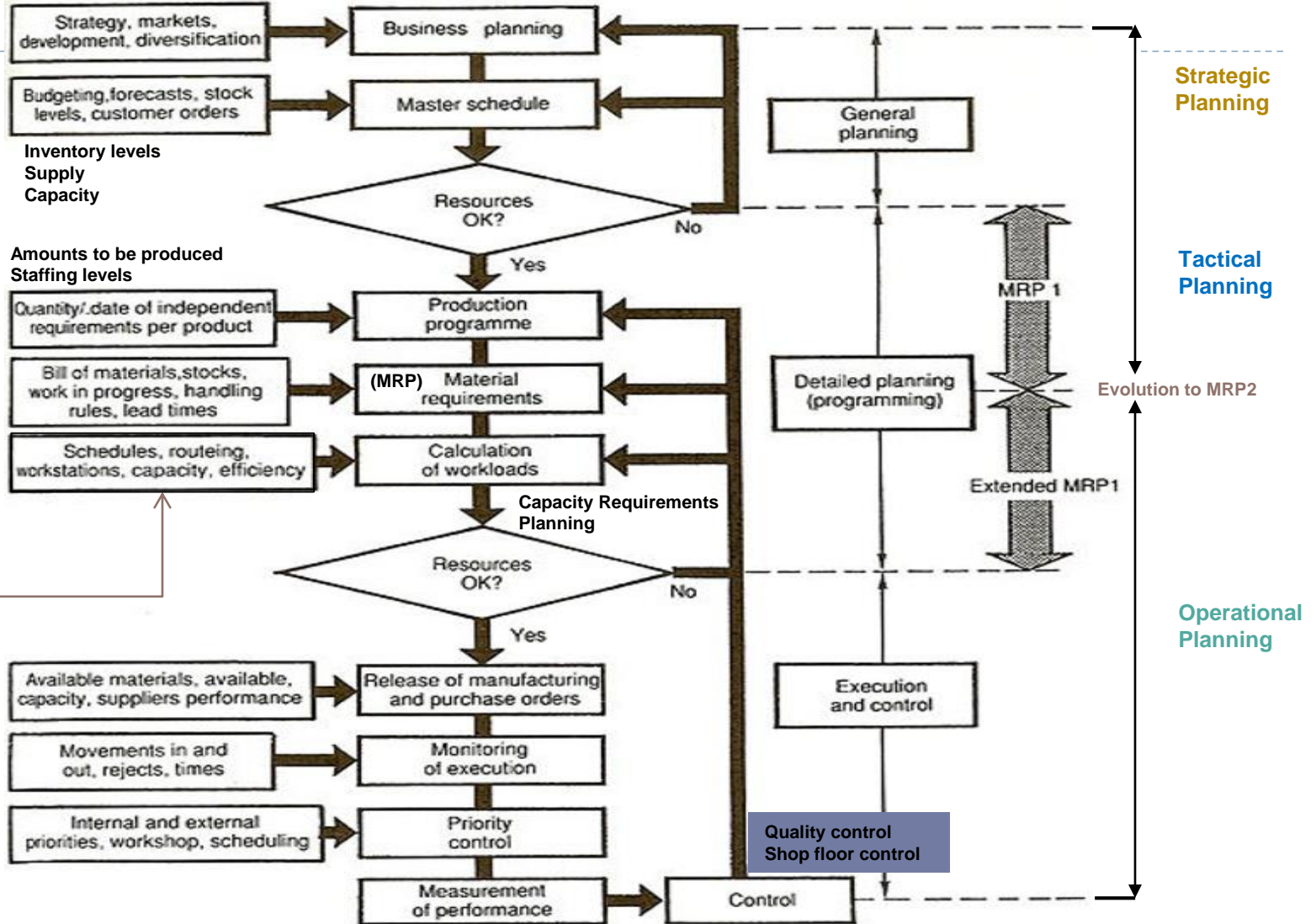
- ▶ In manufacturing, we have:
  - ▶ Raw materials inventory
  - ▶ Work-in-process inventory
  - ▶ Finished goods inventory
  
- ▶ Systems keep track of **quantities** and **costs** of each

# Manufacturing Resource Planning (MRP)



eB-MRP-IN-080

# MRP



**Bill of Materials:** List of raw materials needed to produce one unit of finished product and the quantity of each material

**Route Sheet:** Describes sequence of different operations in the manufacturing of a part and identifies different work centers where the part is processed.  
 -Required operations  
 -Standard time (People + Machine)

Around 1980, over-frequent changes in sales forecasts, entailing continual reajustments in production, as well as the unsuitability of the parameters fixed buy the system, led MRP (Material Requirement Planning) to evolve into a new concept : Manufacturing Resource Planning or MRP2

# Strategic/Tactical/Operational Systems

---

- ▶ Master Production Scheduling system (Strategic)
- ▶ Material Requirements Planning system (Tactical)
  - ▶ Bill of Materials (BoM)
- ▶ Capacity Requirements Planning system (Tactical)
  - ▶ Route Sheet
- ▶ Detailed Production Schedule (Operational)
- ▶ Shop Floor Control (Operational)
- ▶ Quality Control (Operational)
- ▶ Inventory Control (Tactical) & (Operational)
- ▶ Cost Accounting (Tactical) & (Operational)

# Supply Chain Management Software (SCM)

---

- ▶ Supply chain: flow of materials, services and information from suppliers of merchandise and raw materials through to the organization's customers
  - ▶ Now: supply network
- ▶ Supply chain management: processes and procedures used to ensure the delivery of goods and services to customers at the lowest cost while providing highest value to the customers





# Vendor Managed Inventory

---

- ▶ **Vendor Managed Inventory**
  - ▶ suppliers are gaining access to an organization's production planning schedules to assure an ability to fulfill orders
  - ▶ producing organization is opening its systems to the customer to allow the customer to view inventory and production levels before placing orders



# Just-In-Time (JIT) Manufacturing

---

**Raw materials arrive just when they are needed on the production floor**

- ▶ Minimizes inventory
- ▶ Requires complex information systems (operational)
- ▶ May have ***vendor managed inventory***  
(supplier's computers tap into our inventory systems)

# MRP2 Evolution to ERP

