2014 SUPPLY CHAIN MANAGEMENT for EFFICIENT CONSUMER RESPONSE CONFERENCE

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THE ROLE OF INFORMATION SYSTEMS IN SUPPLY CHAIN MANAGEMENT

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Information Technology and Supply Chains

- Information, along with materials and money, must readily flow across the supply chain to enable the planning, execution, and evaluation of key functions.
- Each participant in the supply chain needs relevant information to make effective forecasts and operational decisions.
- Existing supply chain information technologies support timely, cost-efficient sharing of information between suppliers, manufacturers, intermediaries, logistics services providers, and customers.

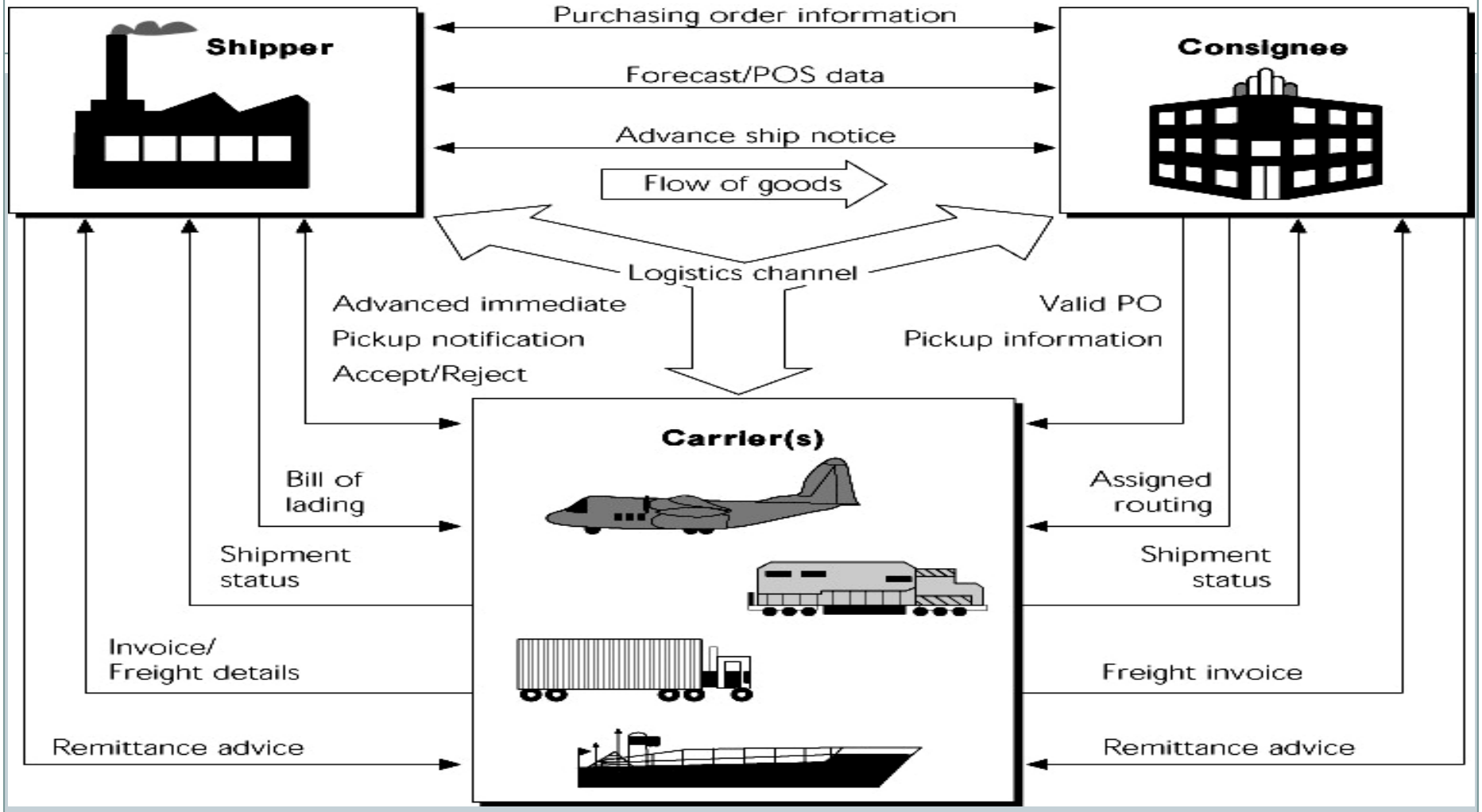
Contemporary Issues in Information Systems

- Availability of Information
  - Managers may be uncertain of needs.
  - Supplied data not consistent with needs.
- Accuracy of Information
  - Three strikes and you're out policy.
  - Accounting practices must accommodate logistics needs.
- Effectiveness of Communication

Supply Chain Information Definition

- Supply chain information systems (SCIS) initiate activities and track information regarding processes, facilitate information sharing both within the firm and between supply chain partners, and assist in management decision making.

Supply Chain Information Flows



Source: Coyle, J.J., Bardi, E.J. and Langley Jr., C.J. (2003). The Management of Business Logistics: A Supply Chain Perspective, 7th edition. Ohio: South-Western Publishing, p. 642

Levels of SCIS

1. Transaction Systems
2. Management Control
3. Decision Analysis
4. Strategic Planning

Transaction Systems

- Order management
- System Inventory assignment
- Order selection
- Shipping
- Pricing and invoicing
- Customer inquiry

Management Control

- Financial measurement: Cost Asset management
- Customer service measurement
- Productivity measurement
- Quality measurement

Decision Analysis

- Vehicle routing and scheduling
- Inventory levels and management
- Network /facility location and integration
- Vertical integration vs. third-party/outsourcing

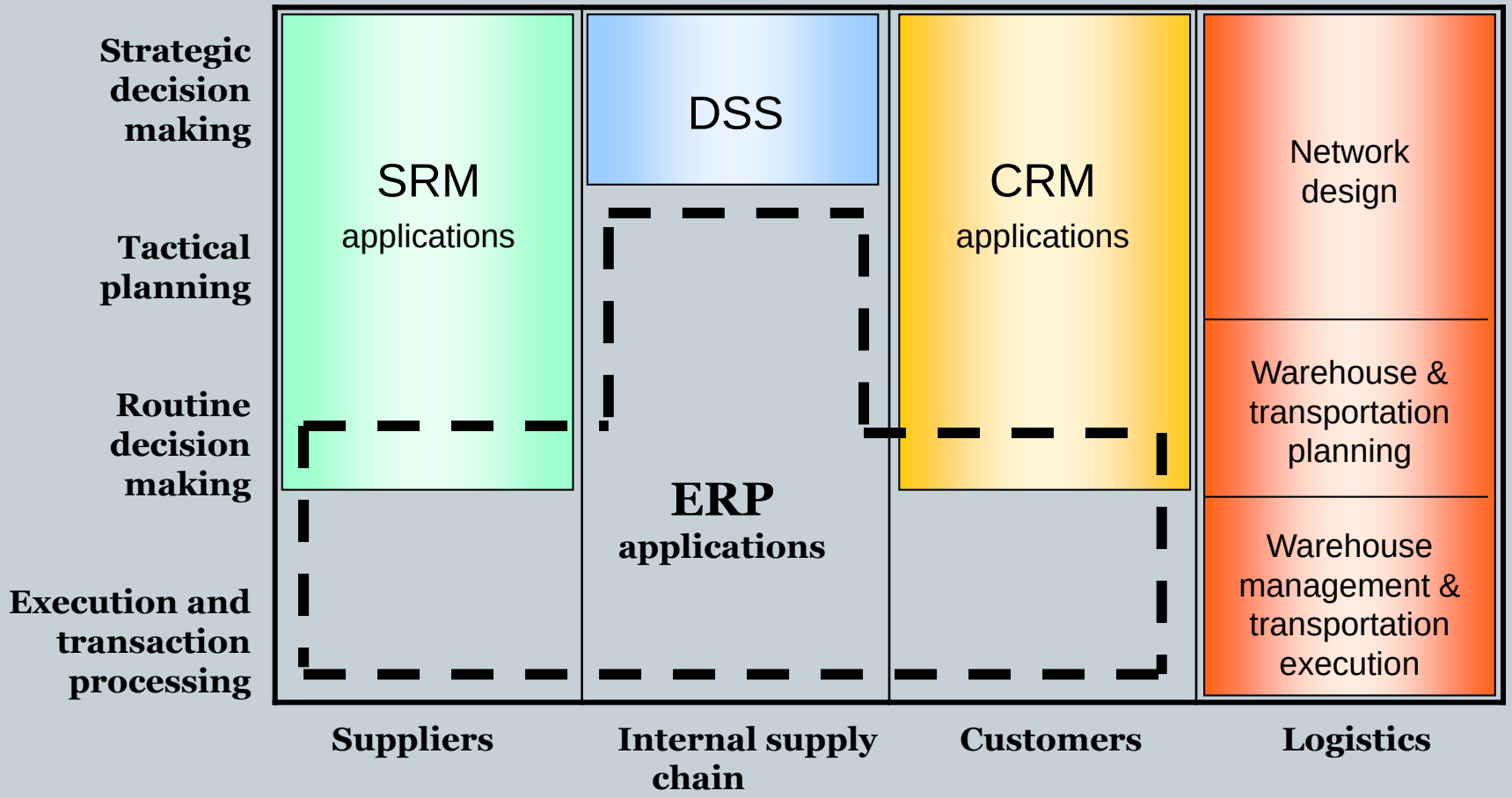
Strategic Planning

- Strategic alliance formulation
- Development and refinement of capabilities and opportunities
- Focused/profit-based customer service analysis

Supply Chain Information Systems

- Enterprise Resource Planning systems (ERP)
- Decision Support Systems (DSS)
- Supplier Relationship Management (SRM)
- Customer Relationship Management (CRM)

Supply Chain Information Systems

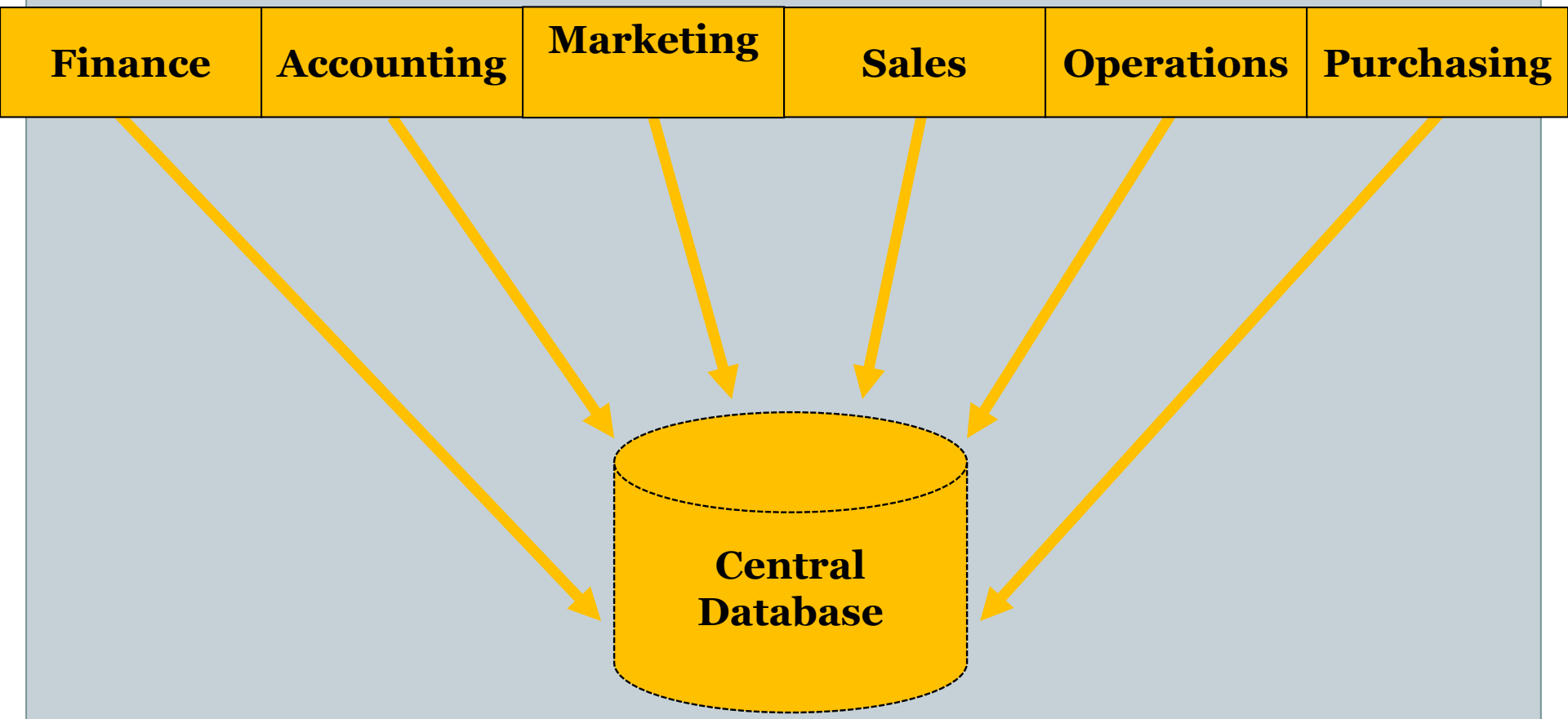


Source: Bozarth, C., Handfield, R. (2008) *Introduction to Operations and Supply Chain Management*, New Jersey: Pearson Prentice Hall, p. 519

Enterprise Resource Planning (ERP)

- ERP systems are multimodule application software platforms that help organizations manage the important parts of their businesses.
- ERP systems branch out to include supplier relationship management, customer relationship management, and other supply chain components, the connections between SCIS and ERP grow stronger.
- ERP system provides a mechanism for supply chain members to efficiently share information

ERP System Overview



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Decision Support Systems

- Some decisions are better made by people: flexibility, intuition, wisdom
- Some decisions are better made by computers
- DSS allow computers and people to work together to make better decisions, range from spreadsheets to expert systems.

Areas of DSS

- Demand planning
- Supply planning: distribution resource planning system (DRP)
- Manufacturing planning and scheduling

Conclusions

- In order for supply chain managers to utilize information, it must be readily accessible, relevant to their decision making needs, accurate, timely, and in a format that can be shared.
- When properly implemented, information technology supports critical supply chain capabilities and strategies, including supply chain connectivity, product visibility, partner collaboration, and process optimization.
- A well-designed SCIS framework links people, processes, and technology in a manner that provides actionable information and enhances decision making.
- Timely data collection and synchronization support supply chain visibility, exception management, and effective response to changing customer requirements

Thank you for your kind attention!