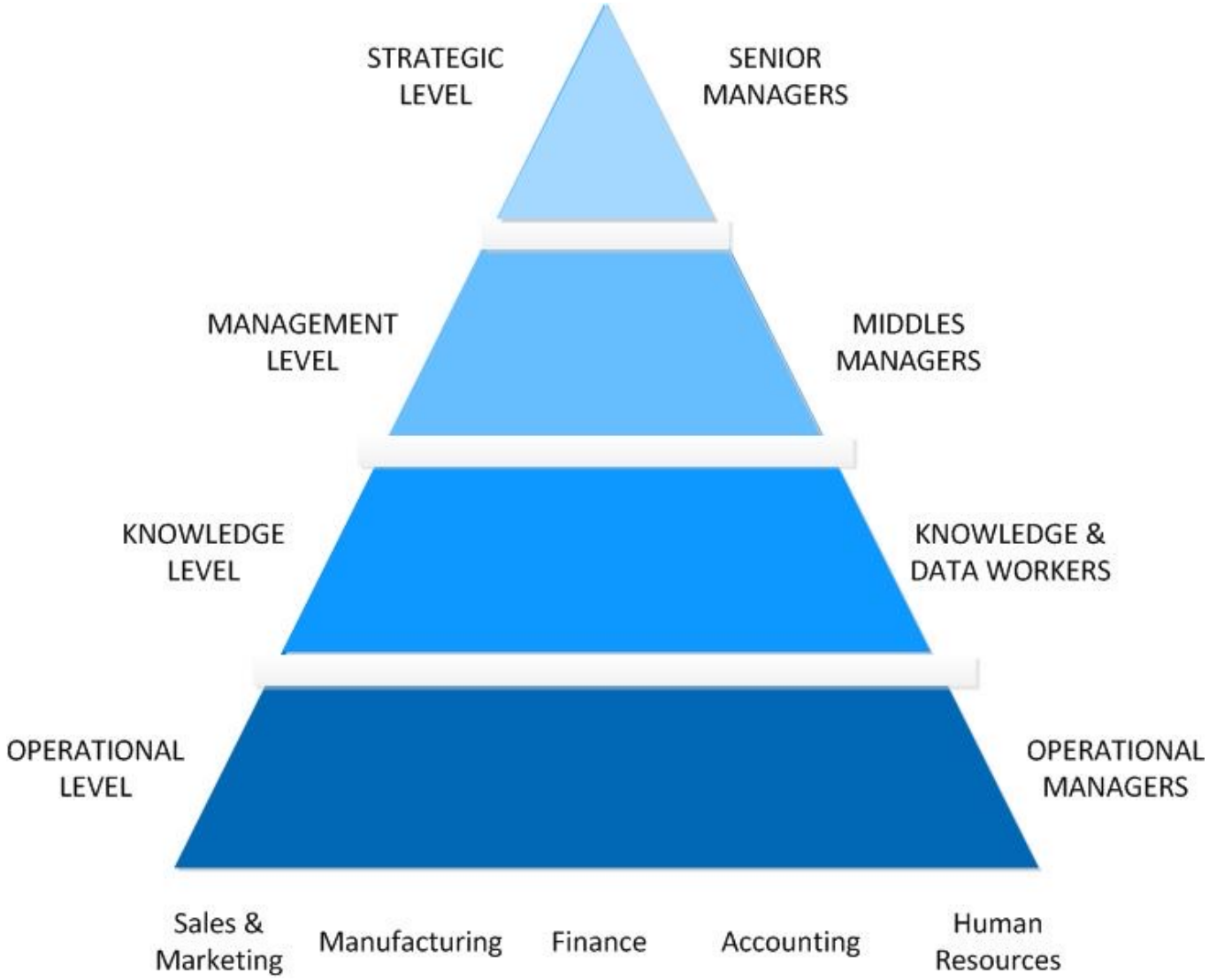
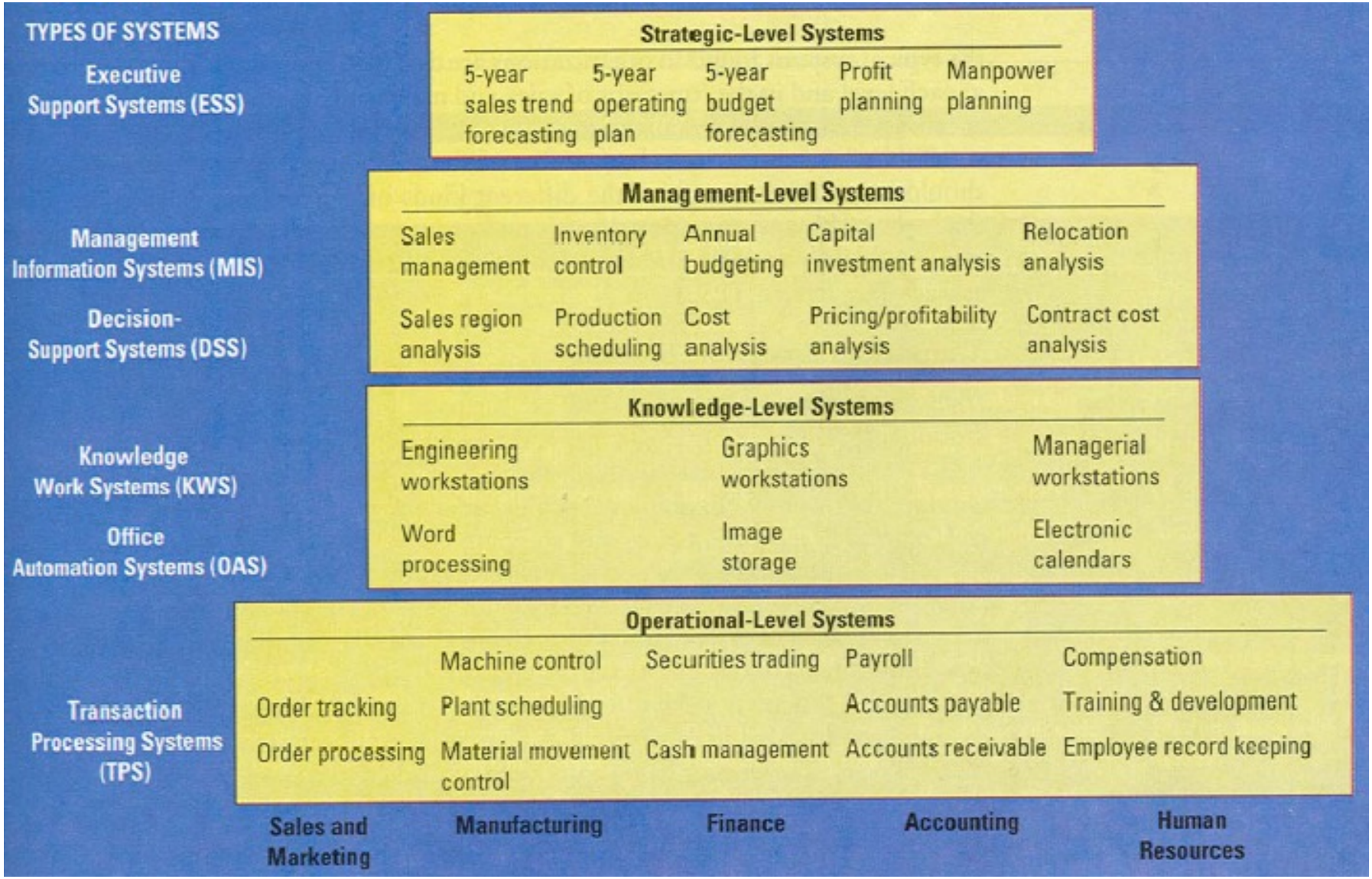
IF3141
SISTEM INFORMASI
Enterprise Wide Information System

Semester I 2023/2024

Level of Management



Types of IS in Enterprise

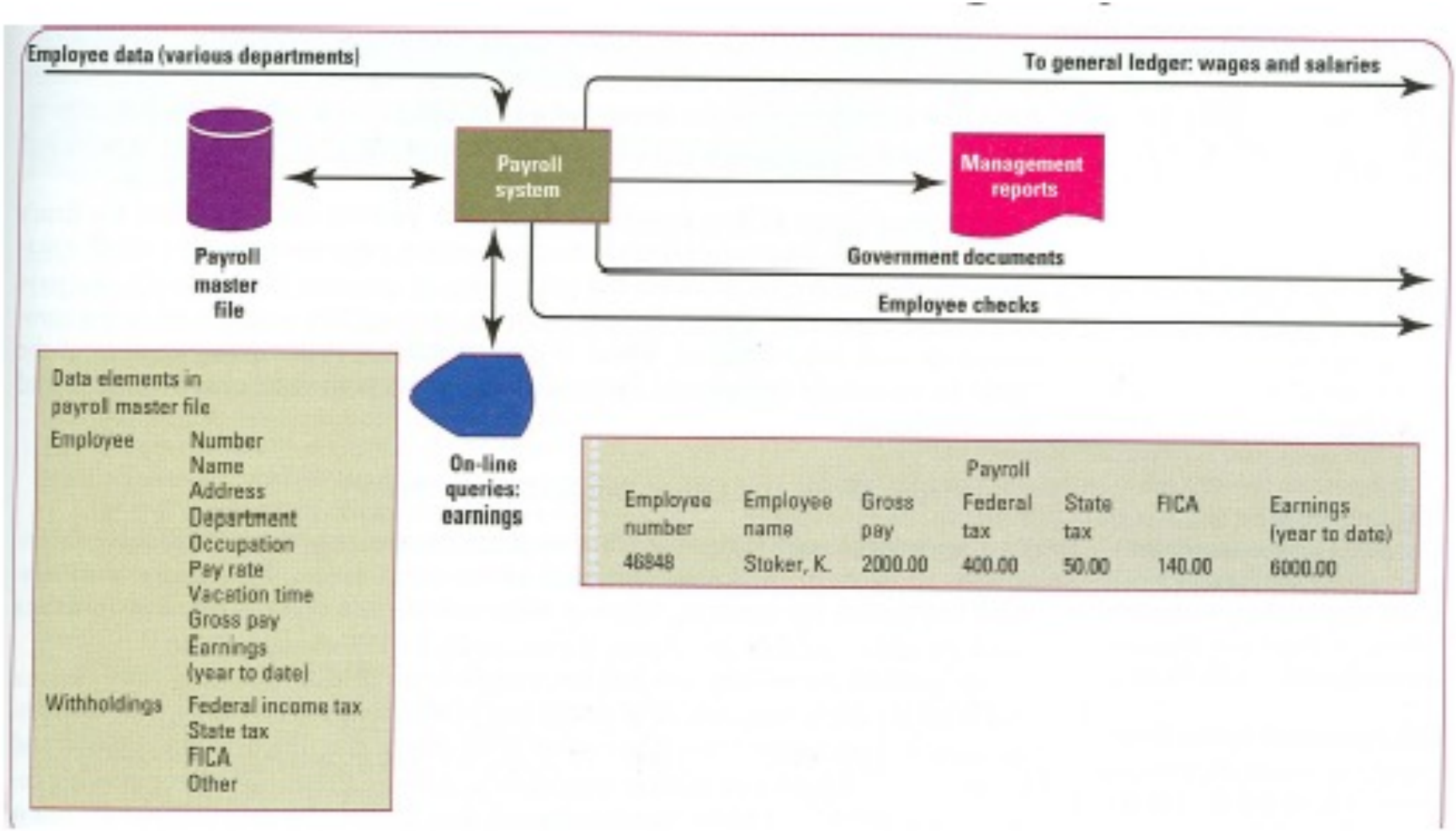


Characteristics of Various IS

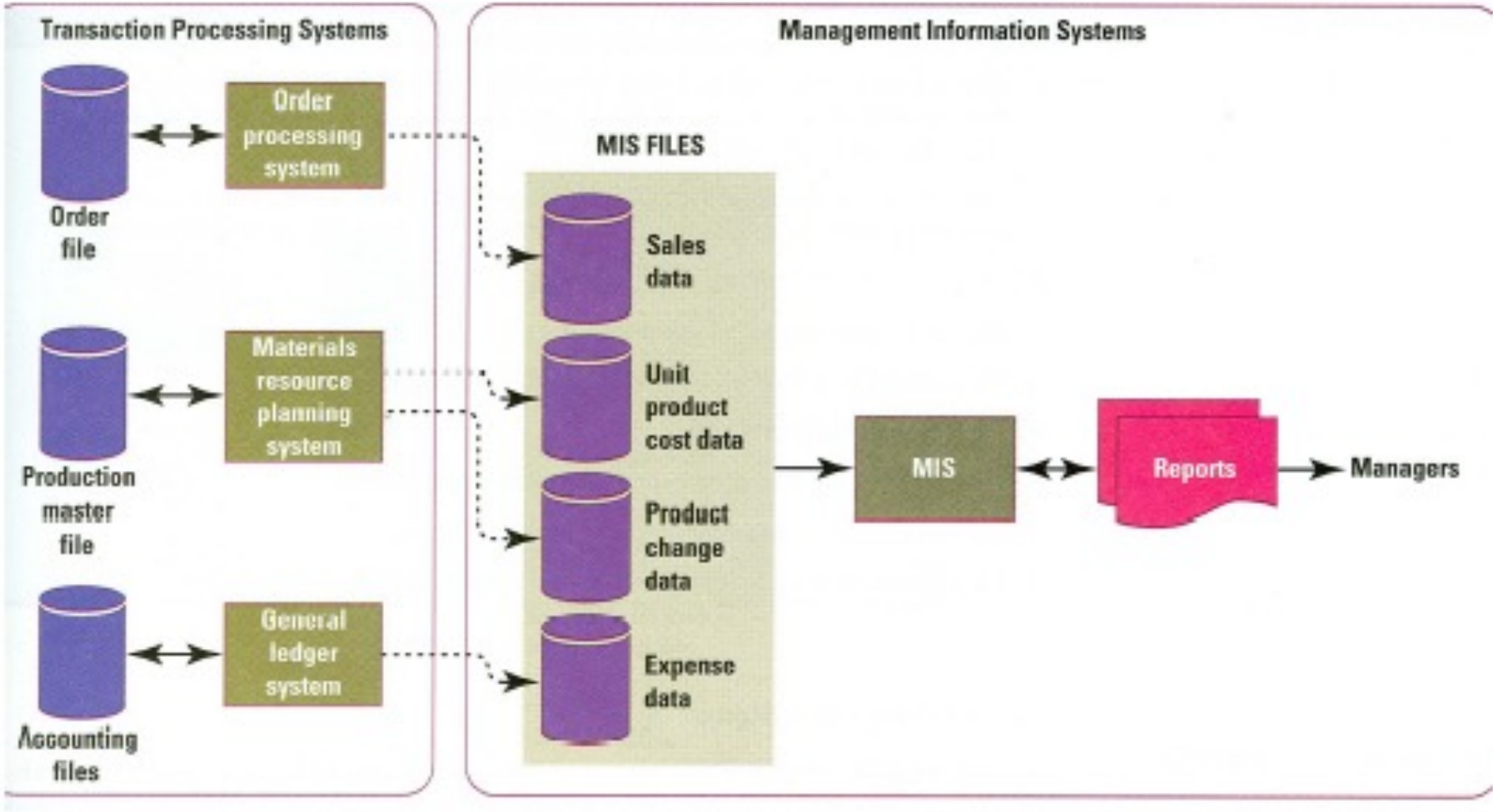
Type of System	Information Inputs	Processing	Information Outputs	Users
ESS	Aggregate data; external; internal	Graphics; simulations; interactive	Projections; responses to queries	Senior managers
DSS	Low-volume data or massive databases optimized for data analysis; analytic models & data analysis tools	Interactive; simulations; analysis	Special reports; decision analysis; responses to queries	Professionals; staff managers
MIS	Summary transaction data; high-volume data; simple models	Routine reports; simple models; low-level analysis	Summary & exeptions reports	Middle managers
KWS	Design specifications; knowledge base	Modeling; simulations	Models; graphics	Professionals; technical staff
Office Systems	Documents; schedules	Document management; scheduling; communication	Documents; schedules; mail	Clerical workers
TPS	Transactions; events	Sorting; listing; merging; updating	Detailed reports; lists; summaries	Operations personel; supervisors

Transaction Processing System

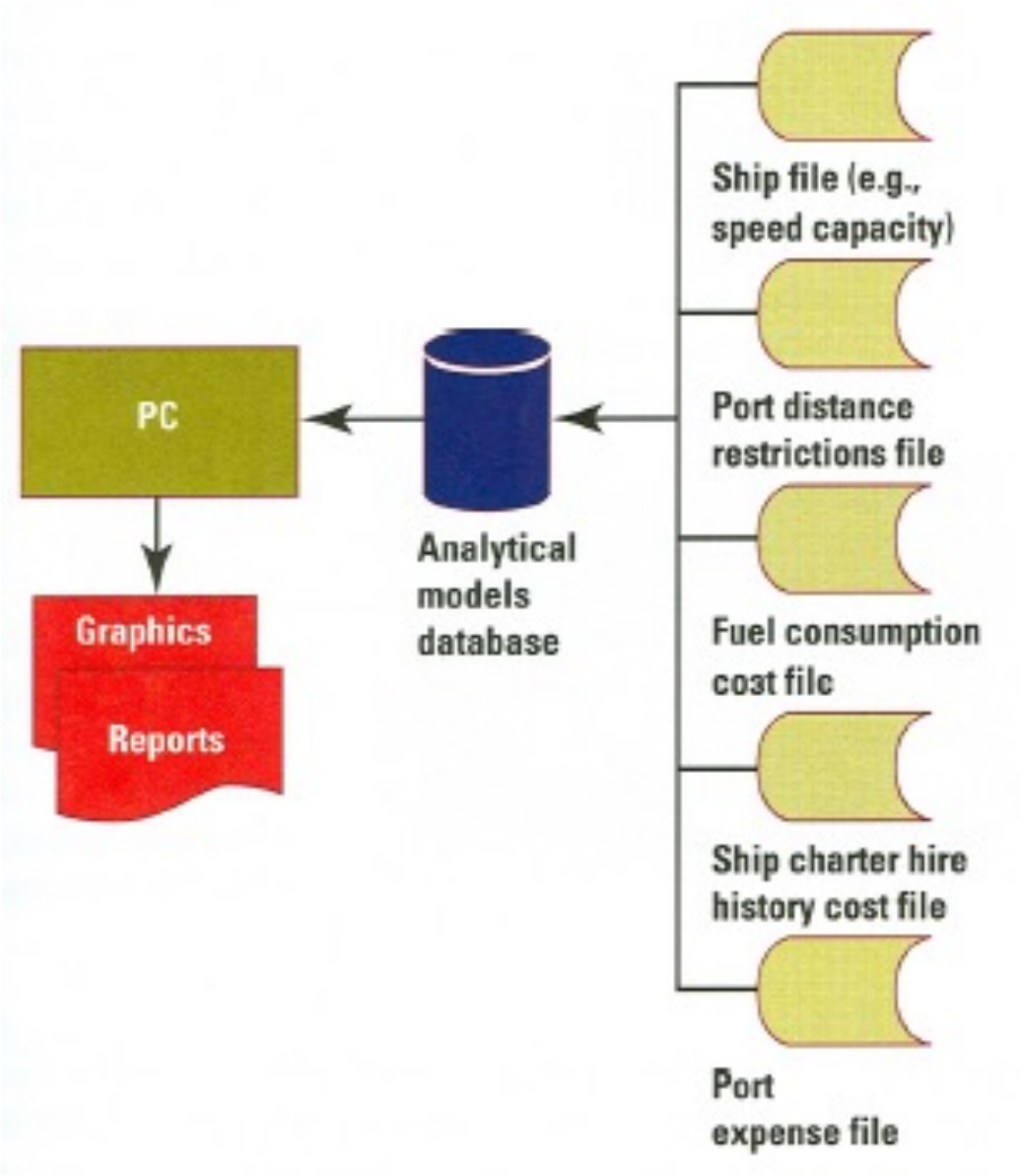
- Ex : A Payroll TPS



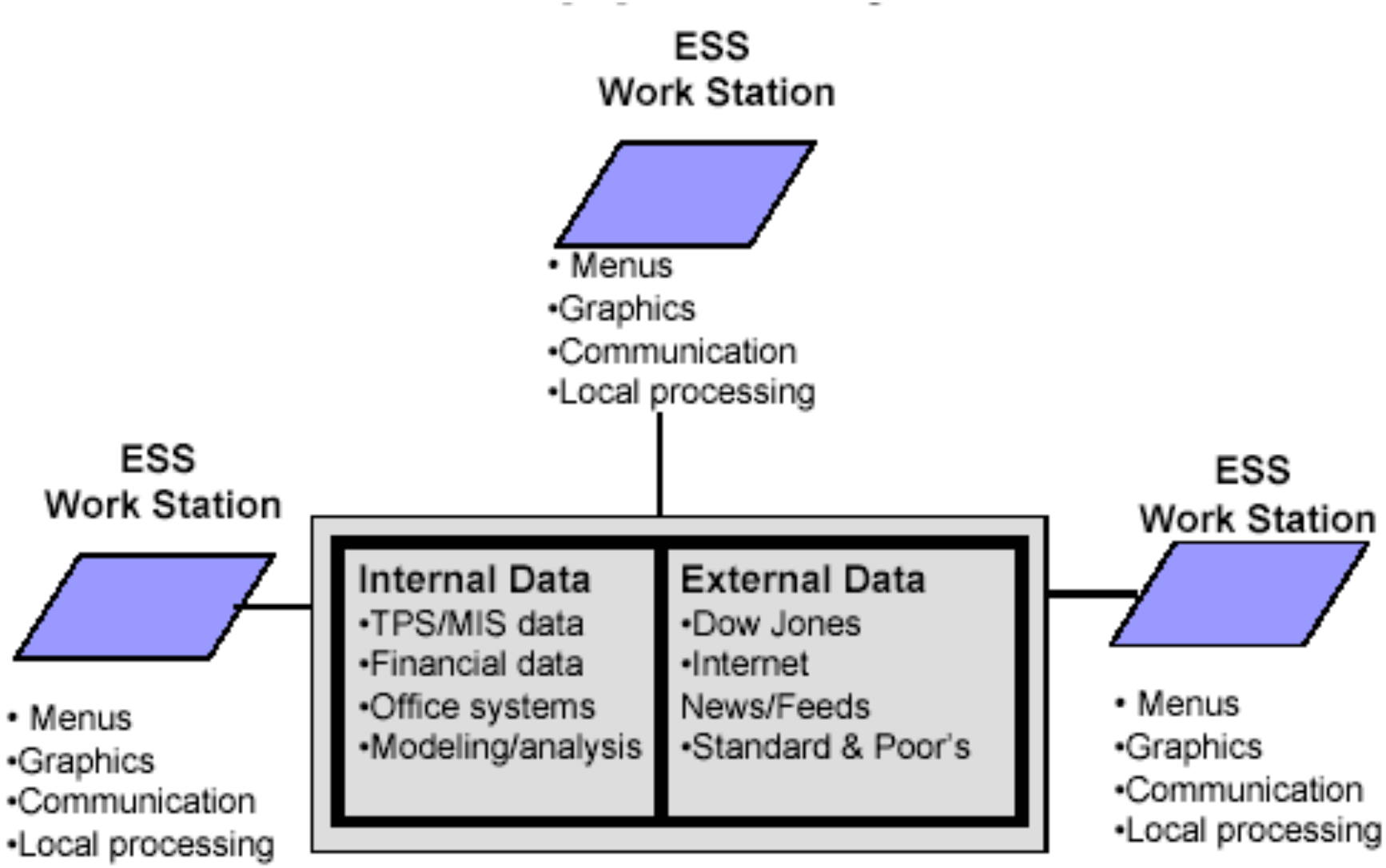
Management Information System



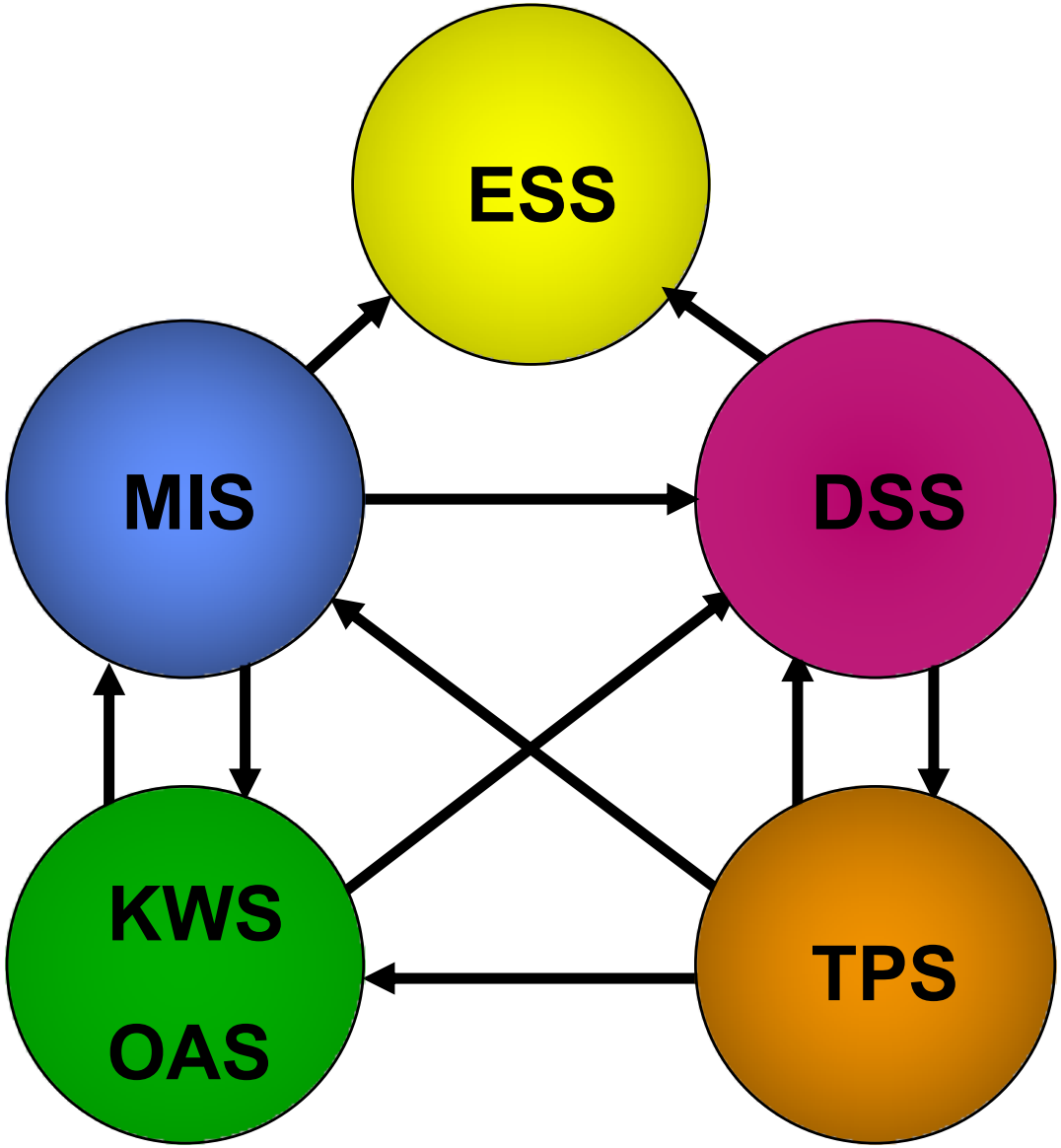
Decision Support System



Executive Support System



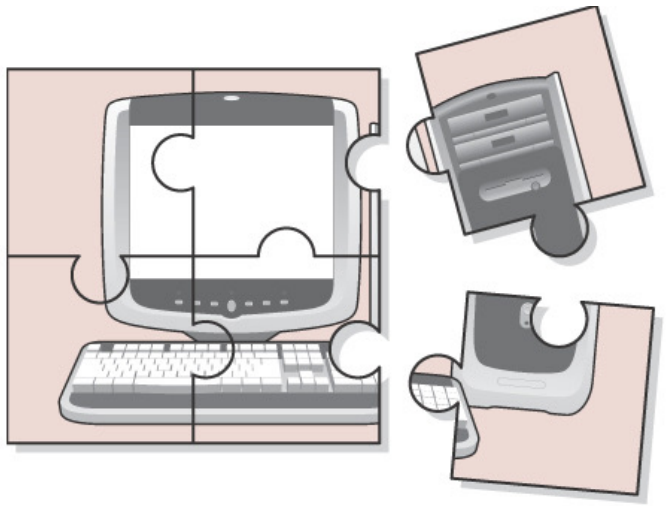
Interrelationship Among Systems



Enterprise Level Integration

- Enterprise
  - A business, an industrious effort, especially one directed toward making money
- Integrated
  - Joined together, united, made into a whole by having brought all parts together

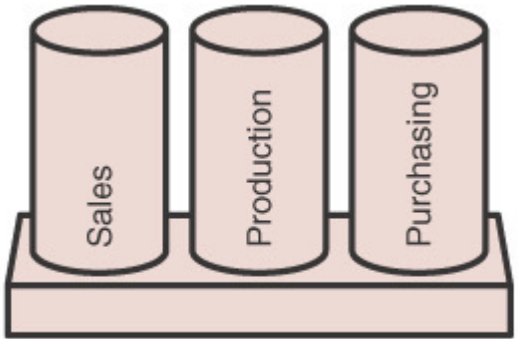
EXHIBIT 1–1
Integration of Jigsaw Puzzle Pieces



Aren't Enterprised System Integrated?

- Enterprise "stove pipes" or "silos"
  - As enterprises grow, they typically become divided based on functional areas
  - Each functional area typically has its own system
  - Even within functional areas, enterprises often develop different systems for different information needs
    - If existing systems lack functionality, additional systems are built to satisfy new needs

EXHIBIT 1–3
Stovepiped System



Common Integration Attempts (1)

- Integrate the end results
  - Let each functional area have its own system and require them to submit end results in a standardized format that can be merged with results from other areas
- Integrate similar types of systems
  - All financial areas use same system
  - All manufacturing areas use same system
  - All areas associated with human resources use same system
  - Etc……

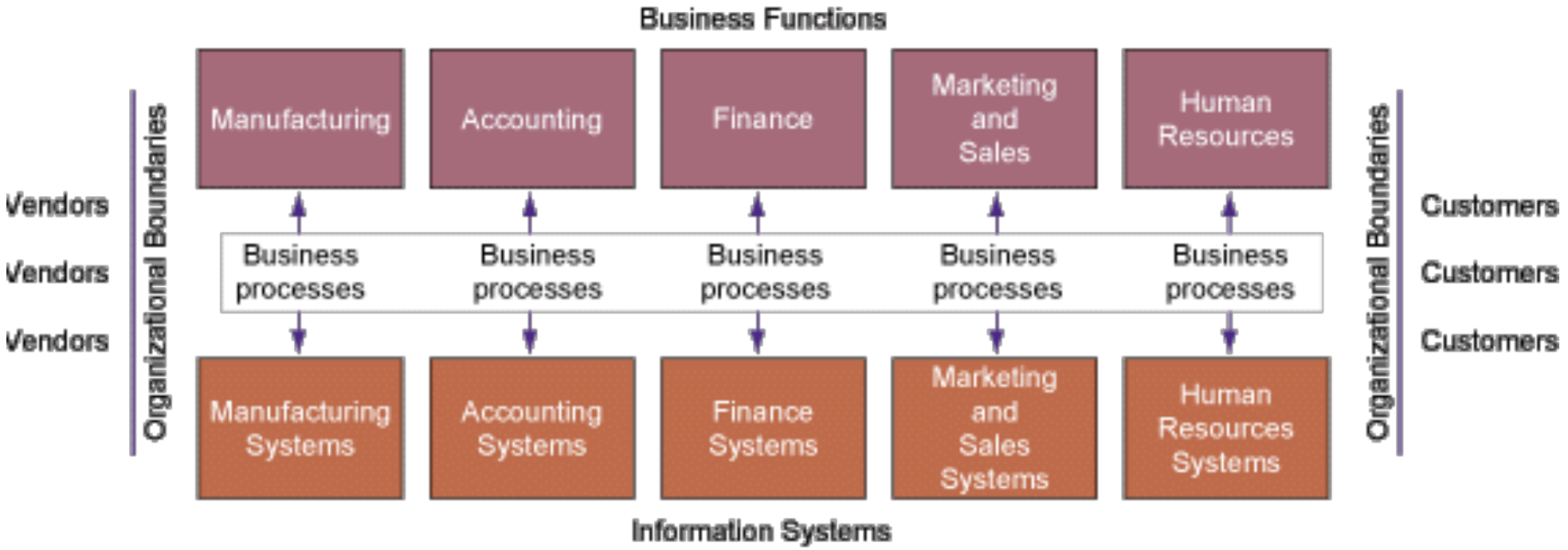
However, each of those systems are different from each other

Common Integration Attempts (2)

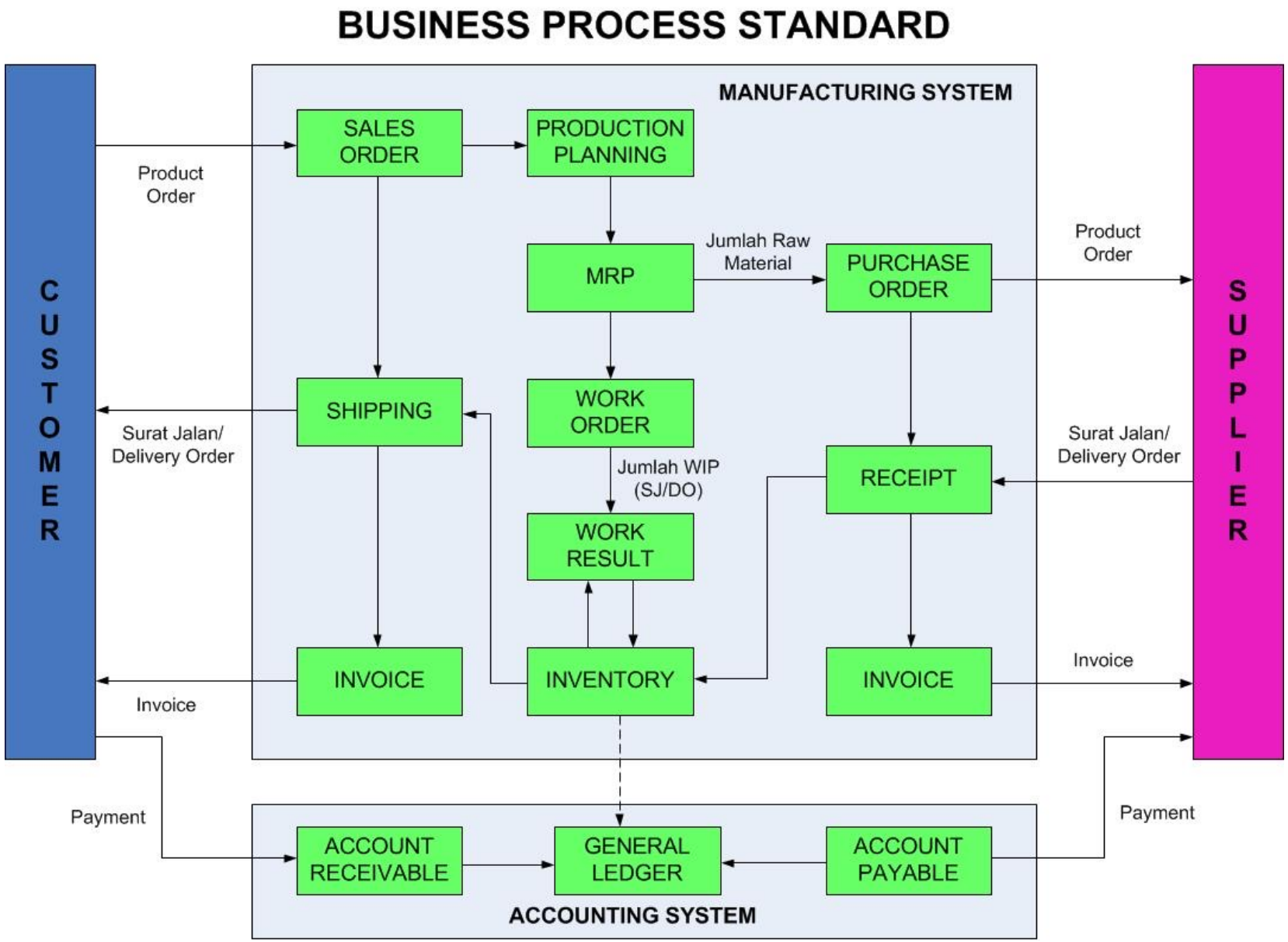
- Enterprise Systems
  - Information systems that allow companies to integrate information across operations on a company-wide basis
  - May be created from scratch
  - but almost always be based on packaged software (e.g. OracleApps, PeopleSoft, SAP)

Enterprise System

- Integrating Functions and Business Processes



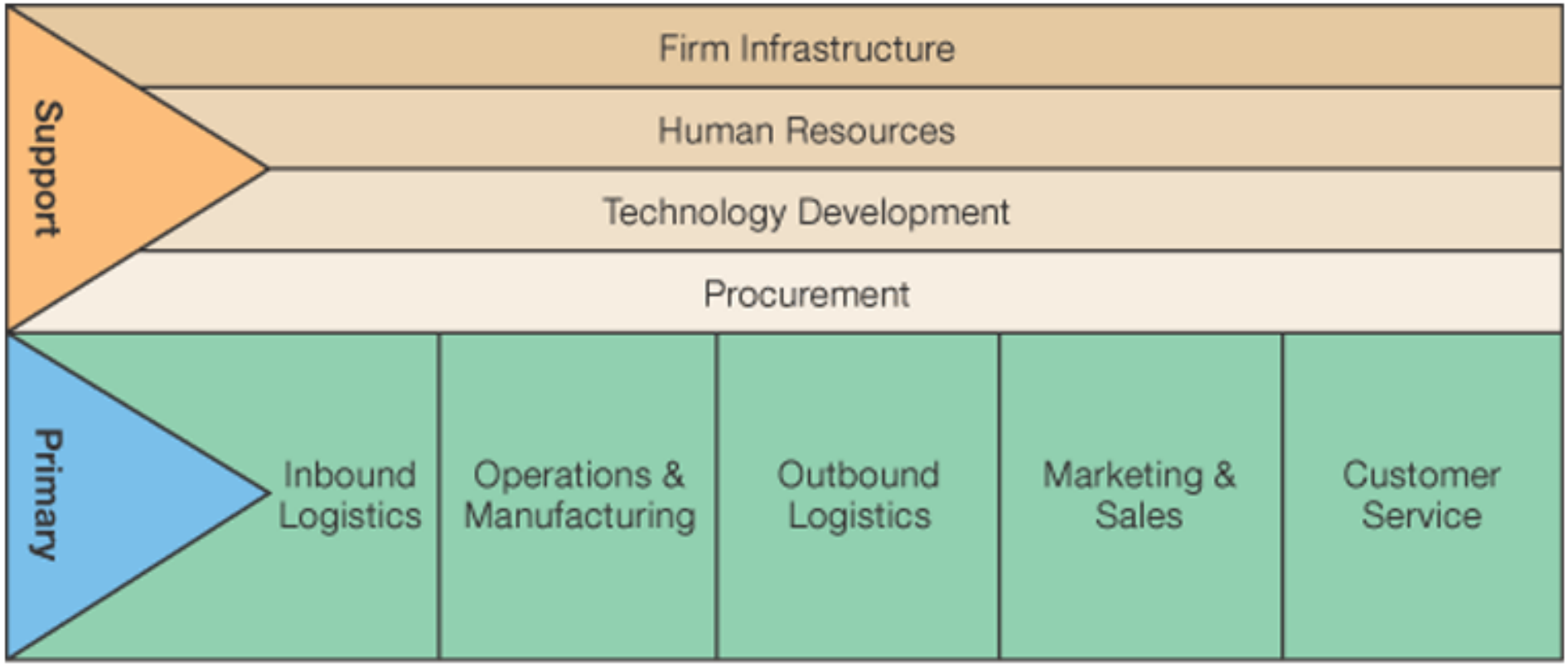
Business Process Standard



Internally Focused Applications (1)

- Value chain – the set of business activities

Figure 7.5 Value chain framework.



Porter and Millar, 1985

Internally Focused Applications (2)

- Functional areas can be broken down into primary and support activities.
- Primary activities are functional areas within an organization that process inputs and produce outputs.
    - Inbound logistics
    - Operations and manufacturing
    - Outbound logistics
    - Marketing and sales
    - Customer service

Internally Focused Applications (3)

- Support activities are those activities that enable primary activities to take place.
  - Infrastructure (hardware & software)
  - Human resources (hiring, interview scheduling, payroll, benefits)
  - Technology development (software selection, Internet, intranet, extranet)
  - Procurement (purchasing of goods and services required as inputs primary services)

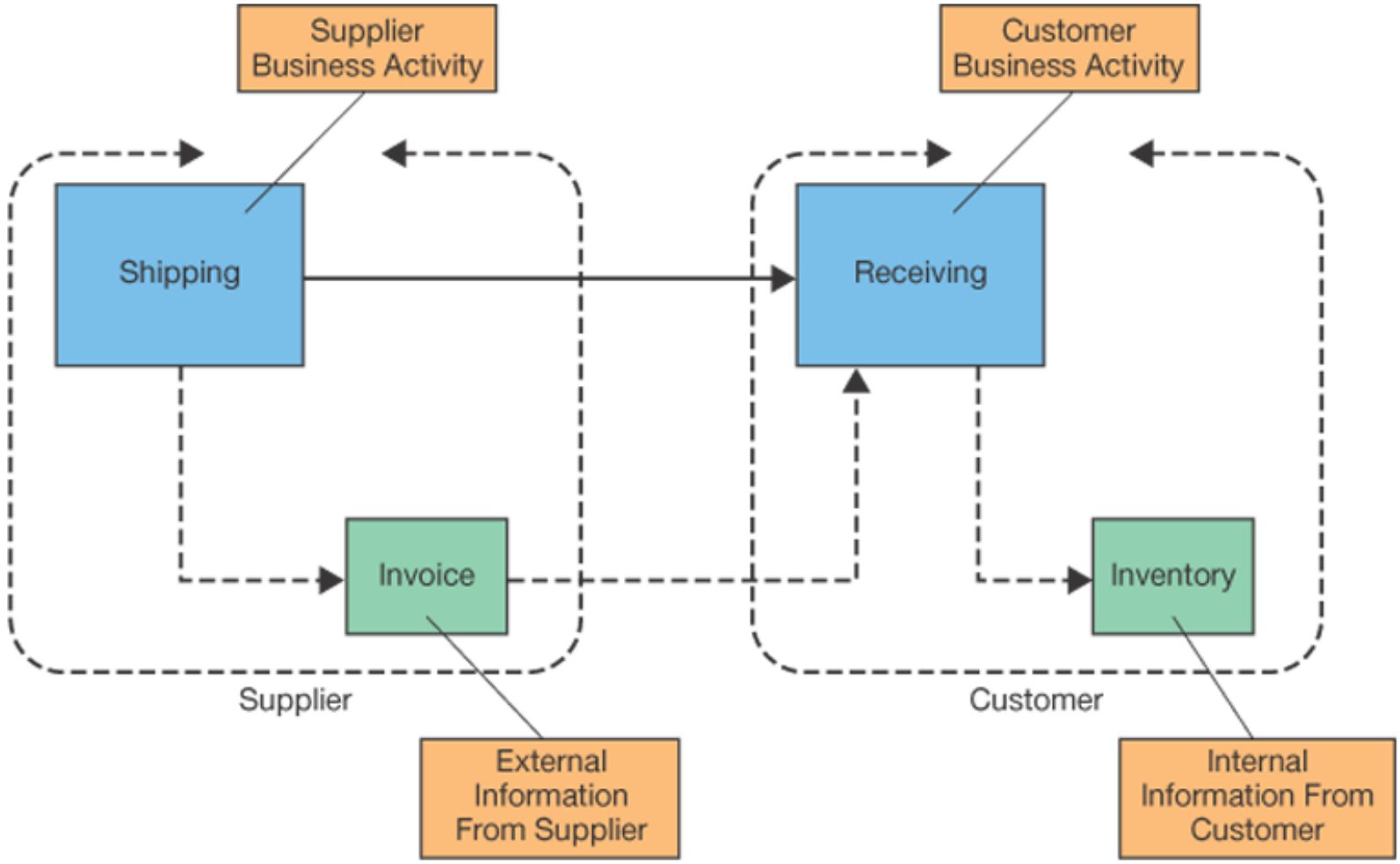
Externally Focused Applications (1)

- Integrate internal applications with those outside: suppliers, partners, customers
- Upstream information
  - Information received from another organization
- Downstream information
  - Information sent to another organization

Externally Focused Applications (2Z)

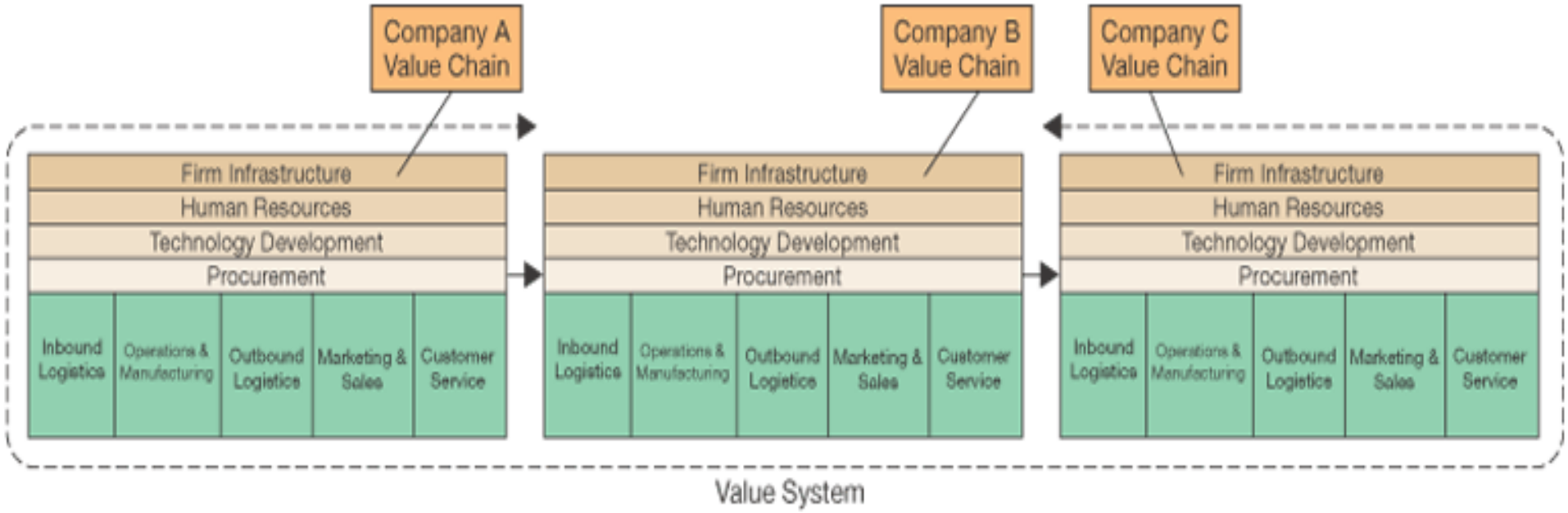
- Because Information flow across organizational boundaries

Figure 7.4 Information flow for a typical shipment across organizational boundaries.



Values System Framework

Figure 7.6 Value system framework.



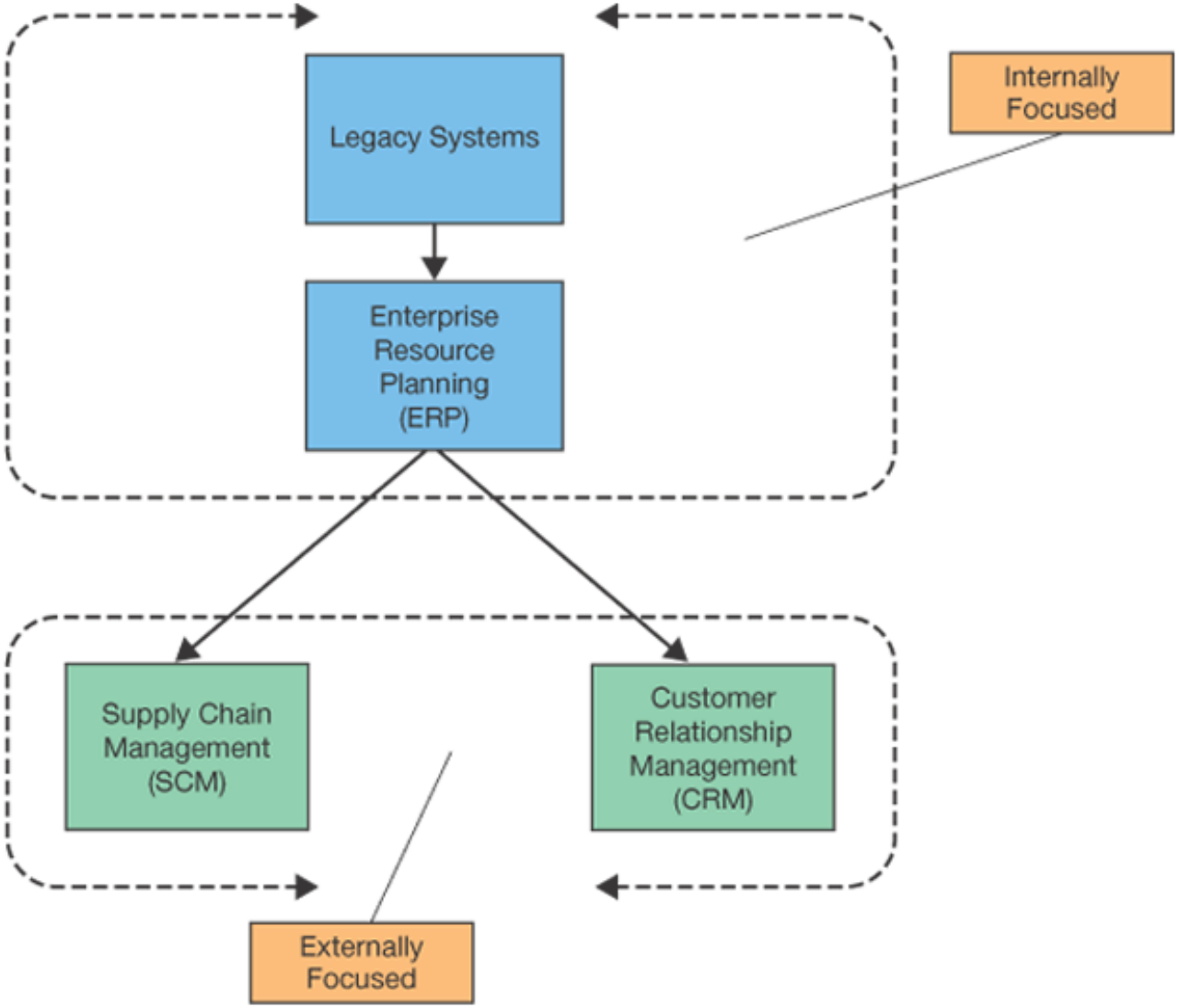
Porter and Millar, 1985

Types of Enterprise System

- Packaged applications
- Custom applications
- Stand-alone applications

Evolution of Enterprise System

Figure 7.7 Stages of enterprise systems evolution.



Types of Enterprise Systems

- Legacy Systems
  - Older systems
  - Tend to be infrastructure-specific
  - Usually linked to a specific business need
  - Not integrated

Types of Enterprise Systems

- Enterprise Systems
  - Enterprise Resource Program
  - Enterprise Resource Planning Software
  - Enterprise Resource Planning System
- An integrated system consisting of integrated applications with common database which coordinate business activities and support the flow of information across the enterprise.
- Includes financial, operational and strategic systems

Why ERP

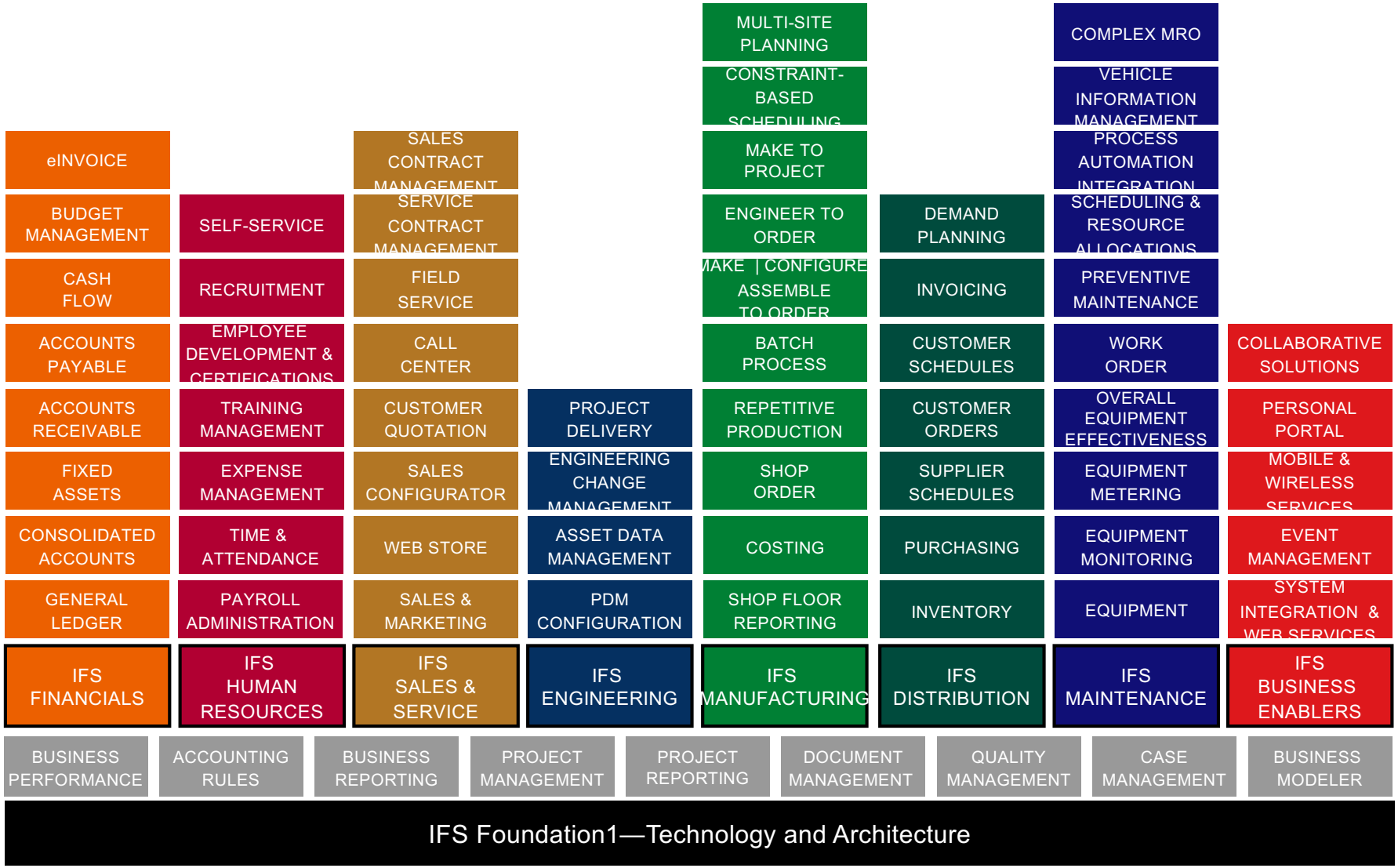
Value Category	Value Lever	Feasible Improvement Range	Sales & Operations Planning	Order Fulfilment	Operations & Logistics	Finance & Admin.	Maint. & Supply Sourcing
Distribution	Reduced transportation cost	5 - 30%	◐	○	●	○	○
	Reduced distribution cost	5 - 20%	◐	○	●	○	○
Labor	Reduction in Order Fulfillment labor cost	10 - 25%	◐	●	○	○	○
	Reduction in Finance & Admin. labor cost	10 - 30%	○	○	◐	●	○
	Reduction in Maintenance & Sourcing labor cost	5 - 20%	○	○	○	○	●
Working Capital	1-Time reduction in FG inventory	10 - 35%	●	◐	○	○	○
	1-Time reduction in MRO inventory	5 - 20%	○	○	○	○	●
	1-Time reduction in WIP inventory	1 - 10%	●	○	○	○	○
	1-Time reduction in AR DSO	1 - 10%	○	●	◐	○	○
COGS	Reduced procured/direct material cost	1 - 5%	○	○	○	○	●
	Reduced inventory carrying cost	10 - 30%	●	○	○	○	○
	Reduced scrap and rework cost	5 - 20%	●	○	○	○	○
Revenue/ Margin	Improved mix/price/resource use	1 - 3%	◐	○	◐	◐	○
	Increase volume via recovery of lost sales	1 - 3%	◐	◐	◐	○	○
	Improved customer service	1 - 2%	◐	◐	◐	◐	○

Source: Accenture global survey 1999 – Natural Resources clients

Shading indicates degree of relevance expressed by respondent (no fill = low)

ERP Implementation

- Modules: Choose what we need



ERP Implementation

- “Vanilla” version
- Customizations
- Best practices
- Business process reengineering (BPR)

Types of Enterprise Systems

- Customer Relationship Management (CRM)
  - Sales Force Automation (SFA)
  - New opportunities for competitive advantage
  - Examples:
    - MGM
    - American Airlines
    - Marriott International

Types of Enterprise Systems

- Supply Chain Management (SCM)
  - Supply chain – the producers of supplies that a company uses
  - Supply network
  - What if supply chain does not collaborate?
  - Two objectives of upstream information flow:
    - Accelerate product development
    - Reduce costs associated with suppliers

The Formula for Enterprise Systems Success

- Secure executive sponsorship
- Get help from outside experts
- Thoroughly train users
- Take a multidisciplinary approach to implementation