

Chapter 7: Enhancing Business Processes Using Enterprise Information Systems

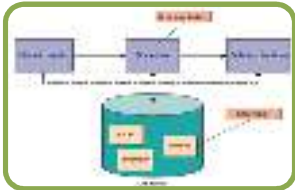
Enterprise systems integrate business activities across the organization and with business partners

Chapter 7 Learning Objectives



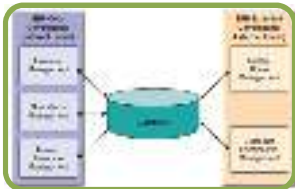
Core Business Processes and Organizational Value Chains

- Explain core business processes that are common in organizations.



Enterprise Systems

- Describe what enterprise systems are and how they have evolved.



Enterprise Resource Planning

- Describe enterprise resource planning systems and how they help to improve internal business processes.



Achieving Enterprise System Success

- Understand and utilize the keys to successfully implementing enterprise systems.

Core Business Processes and Organizational Value Chains



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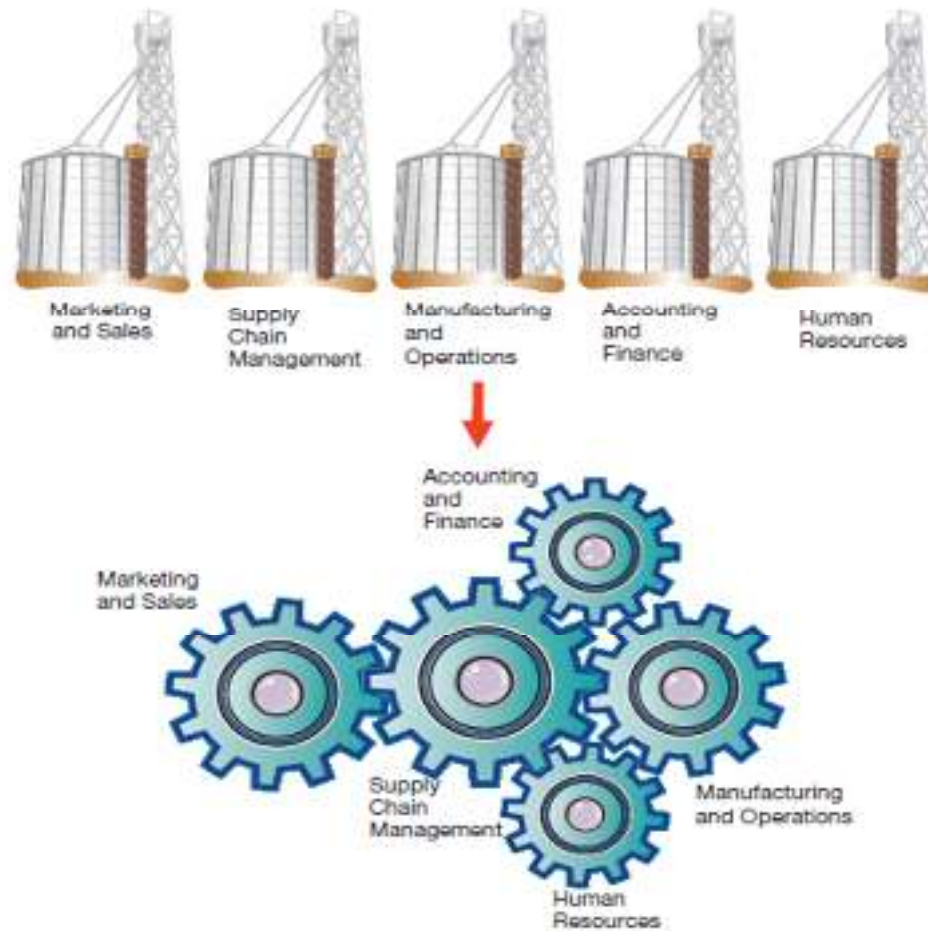
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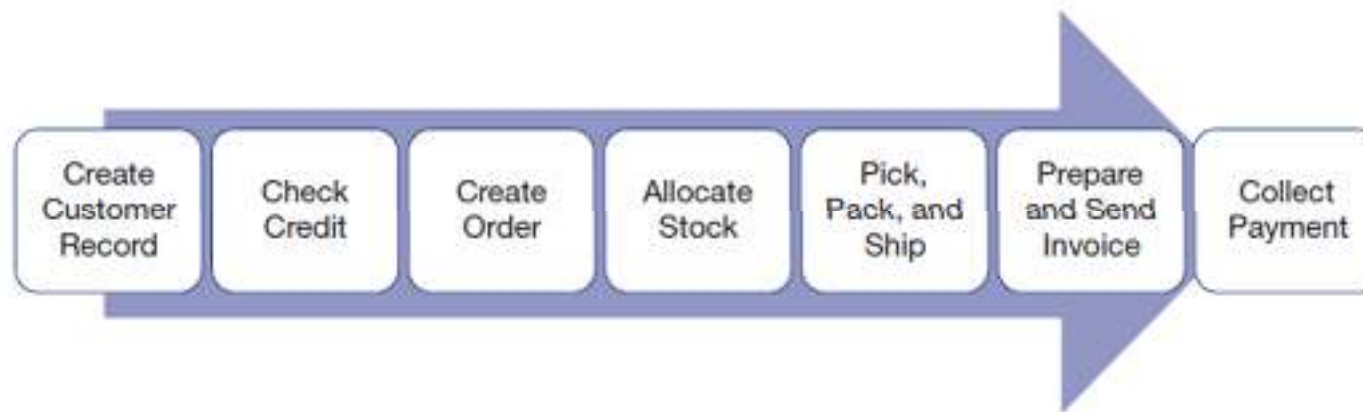
Organizations and Functions



Core Business Processes

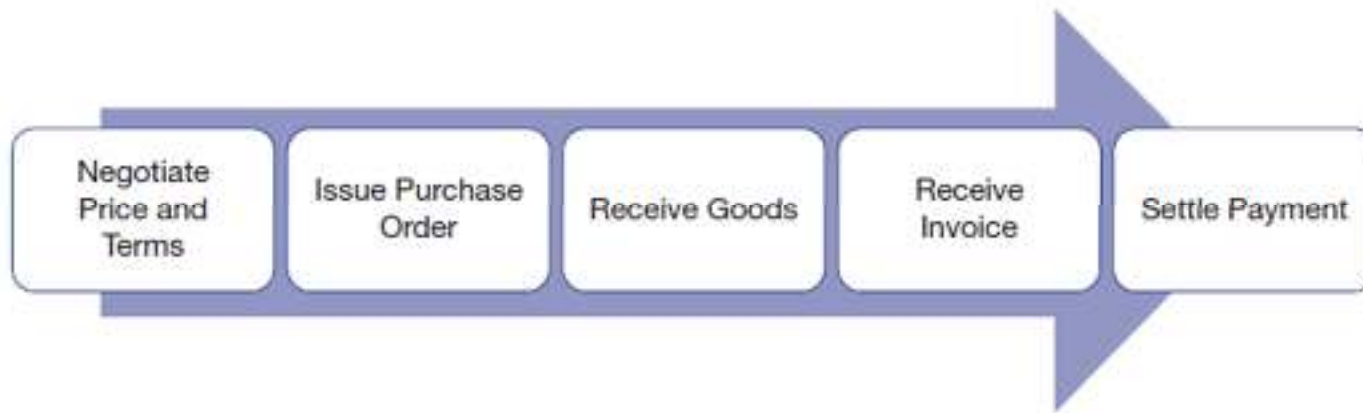
- Order-to-Cash
 - The process of selling goods or services and collecting revenue for them
- Procure-to-Pay
 - The process of ordering goods or services and paying for them
- Make-to-Stock/Make-to-Order
 - The process of manufacturing goods, either based on forecasts or based on orders

Core Business Processes: Order-to-Cash



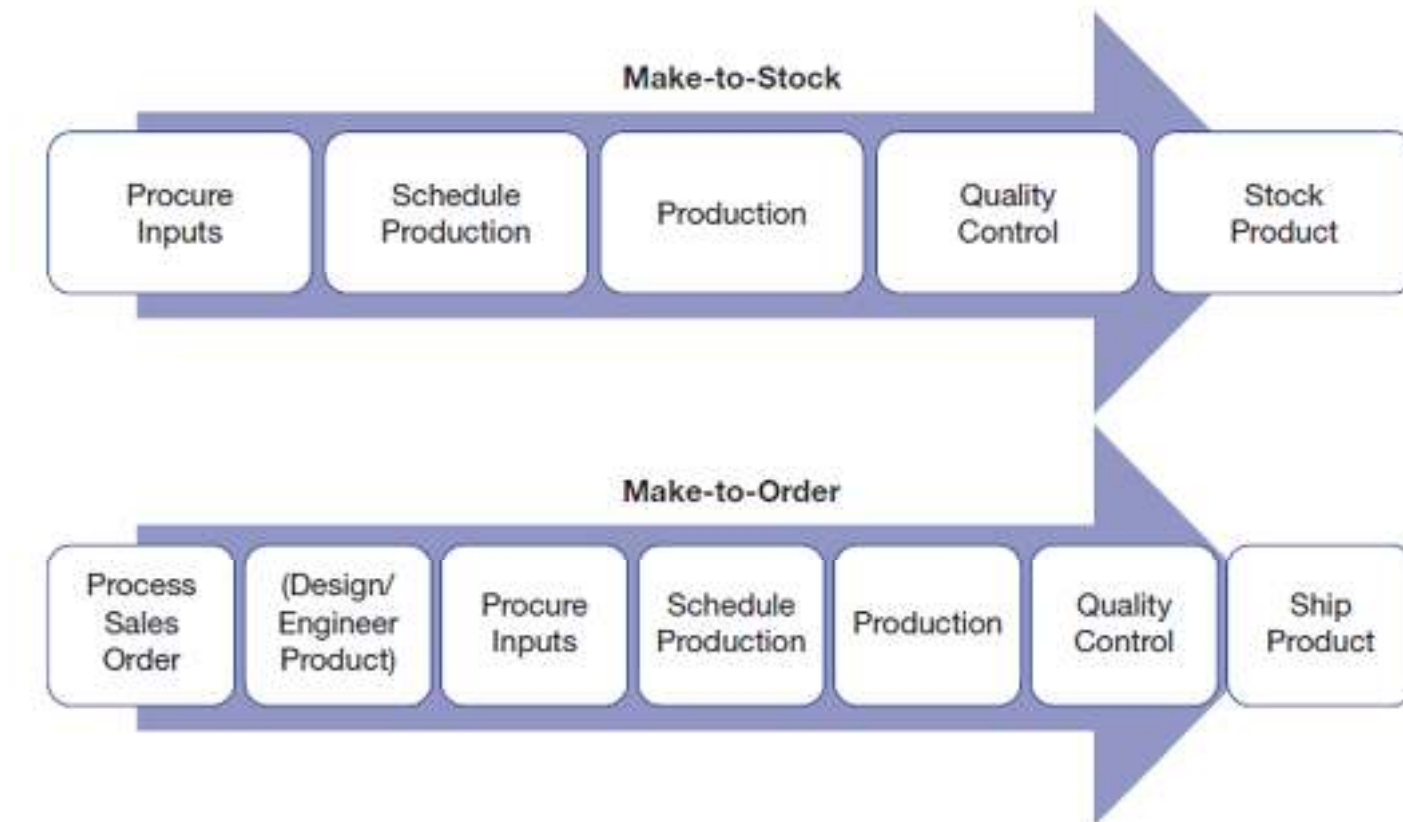
- Functional Areas in Order-to-Cash
 - Marketing and Sales
 - Accounting and Finance
 - Manufacturing and Operations

Core Business Processes: Procure-to-Pay

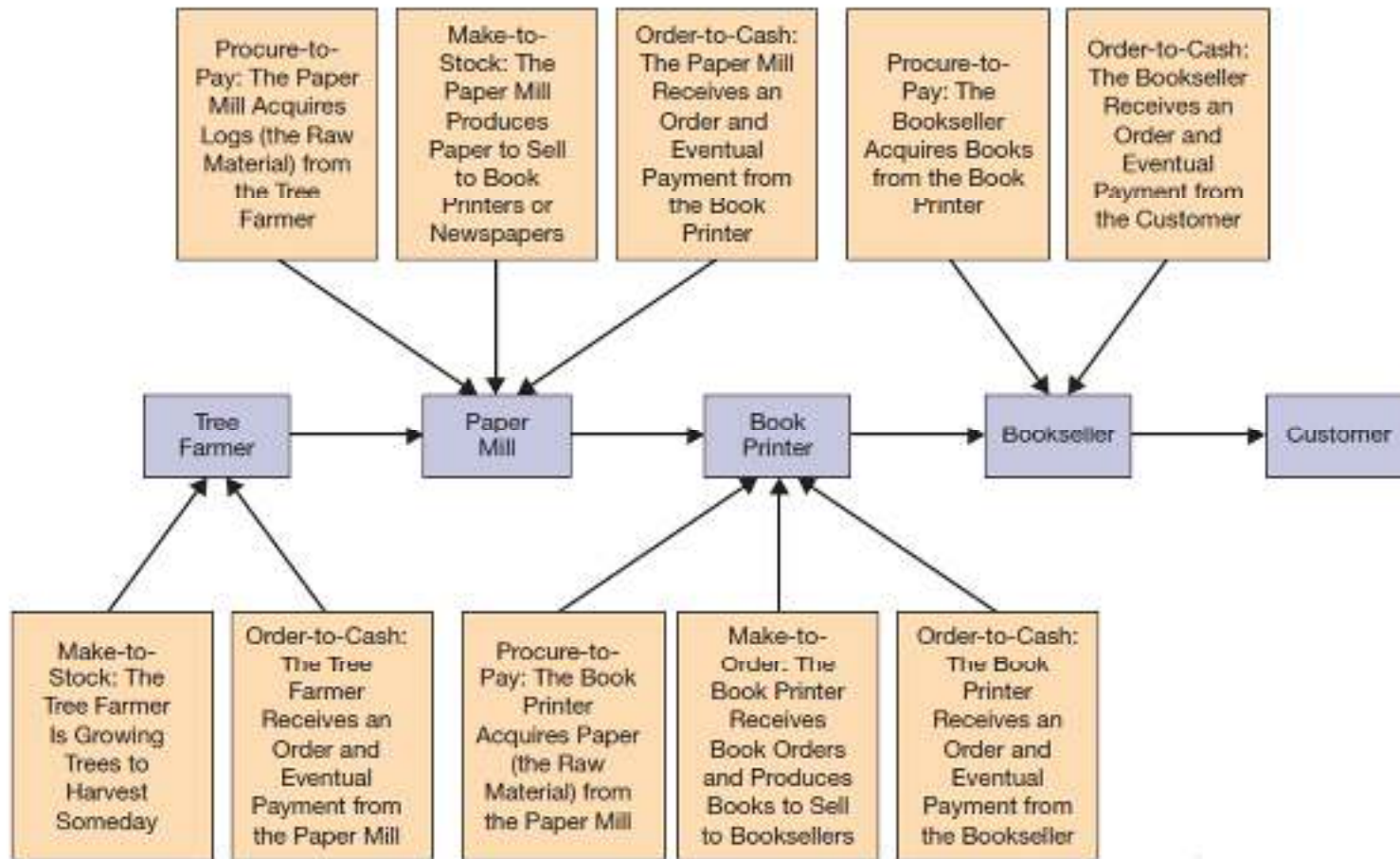


- Functional Areas in Procure-to-Pay
 - Supply Chain Management
 - Accounting and Finance
 - Manufacturing and Operations

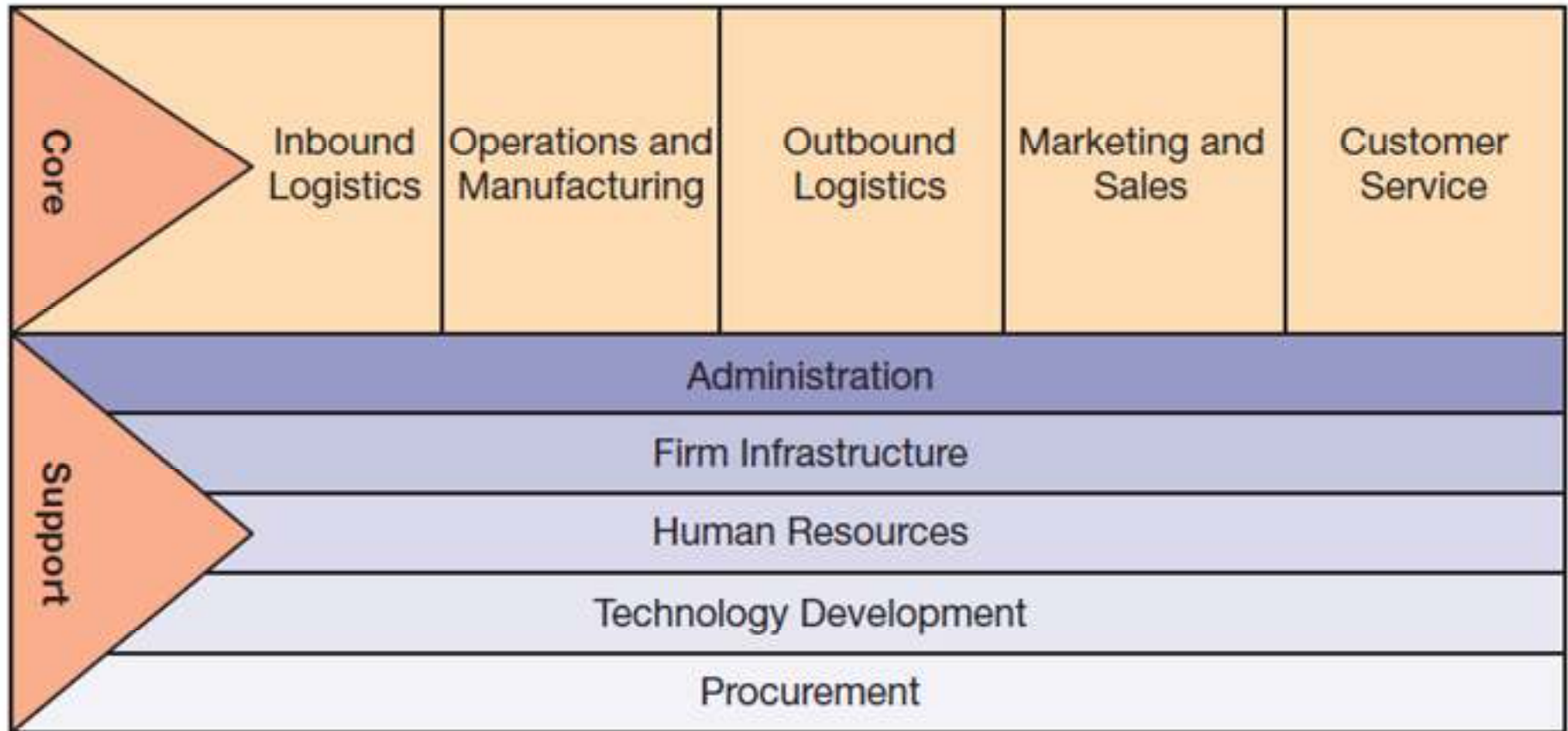
Core Business Processes: Make-to-Stock and Make-to-Order



An Example Supply Chain

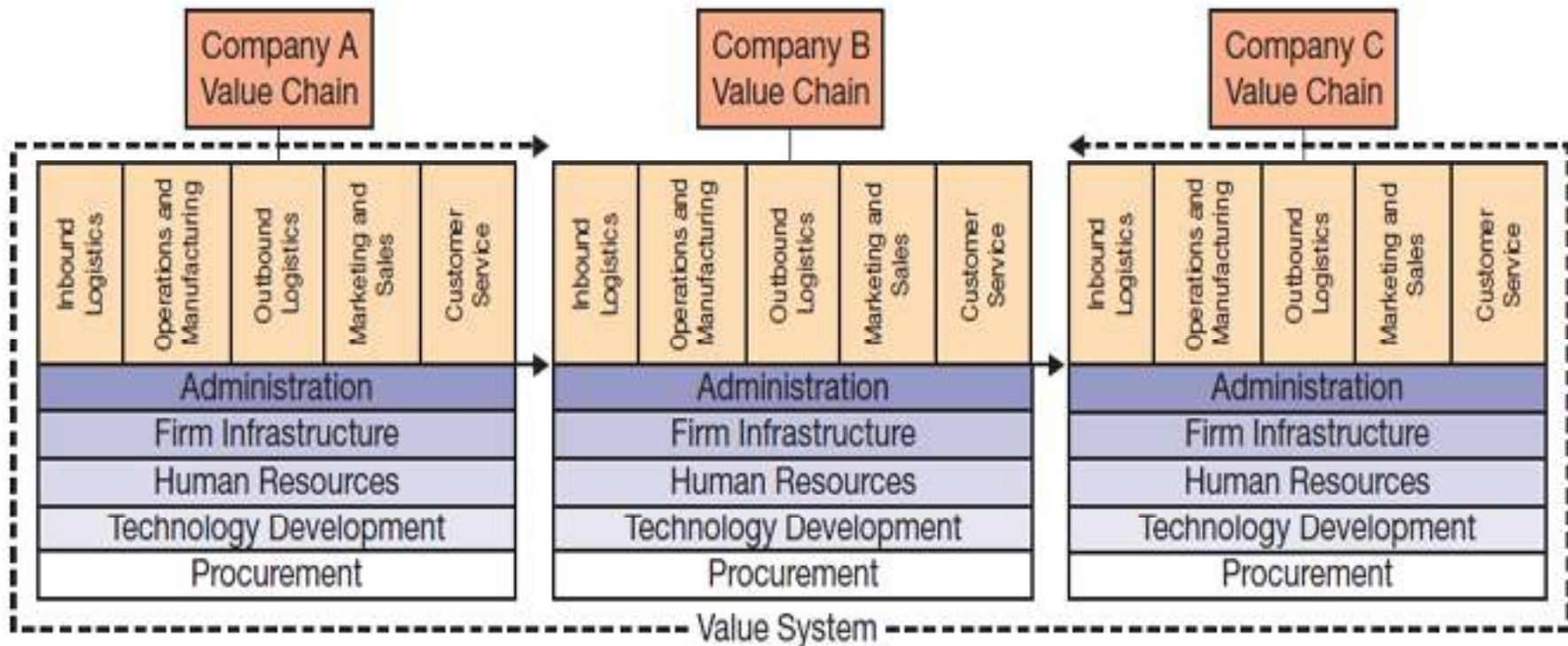


Organizational Activities Along the Value Chain



Source: Based on Porter and Millar (1985).

Value Systems: Connecting Multiple Organizational Value Chains



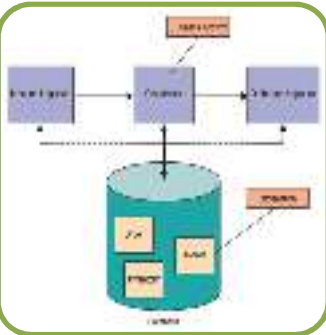
Source: Based on Porter and Millar (1985); Christensen (1997).

Enterprise Systems



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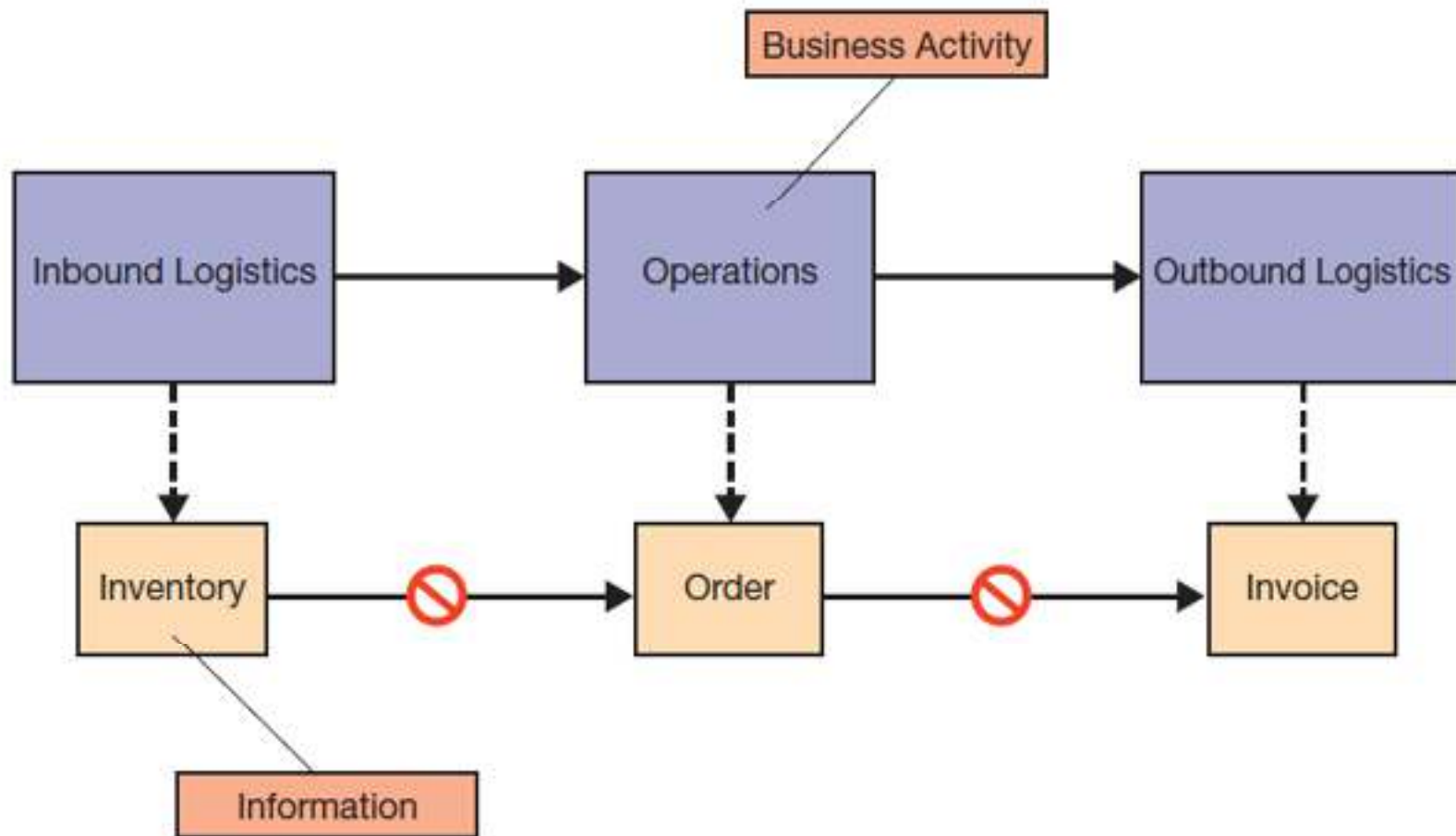
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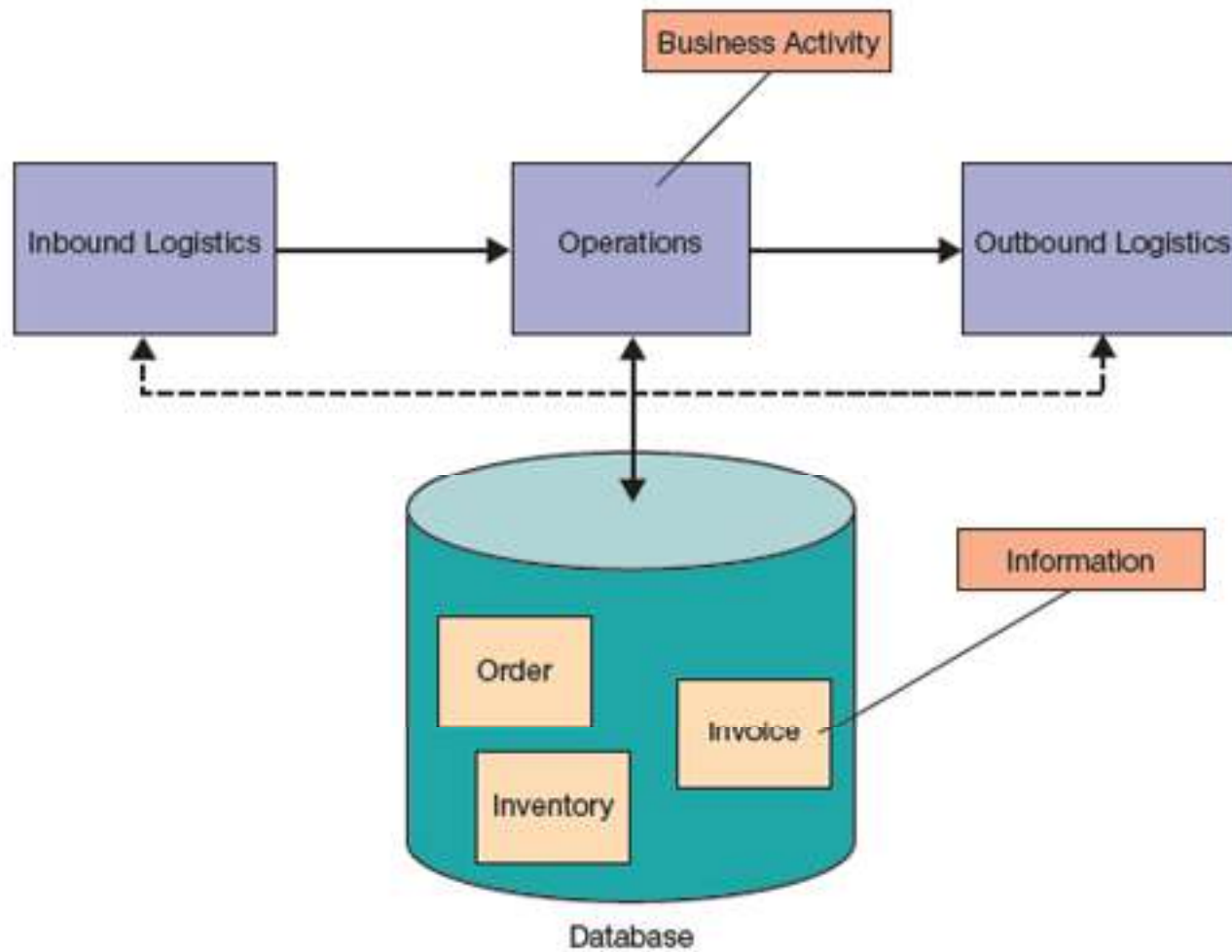
Achieving Enterprise System Success

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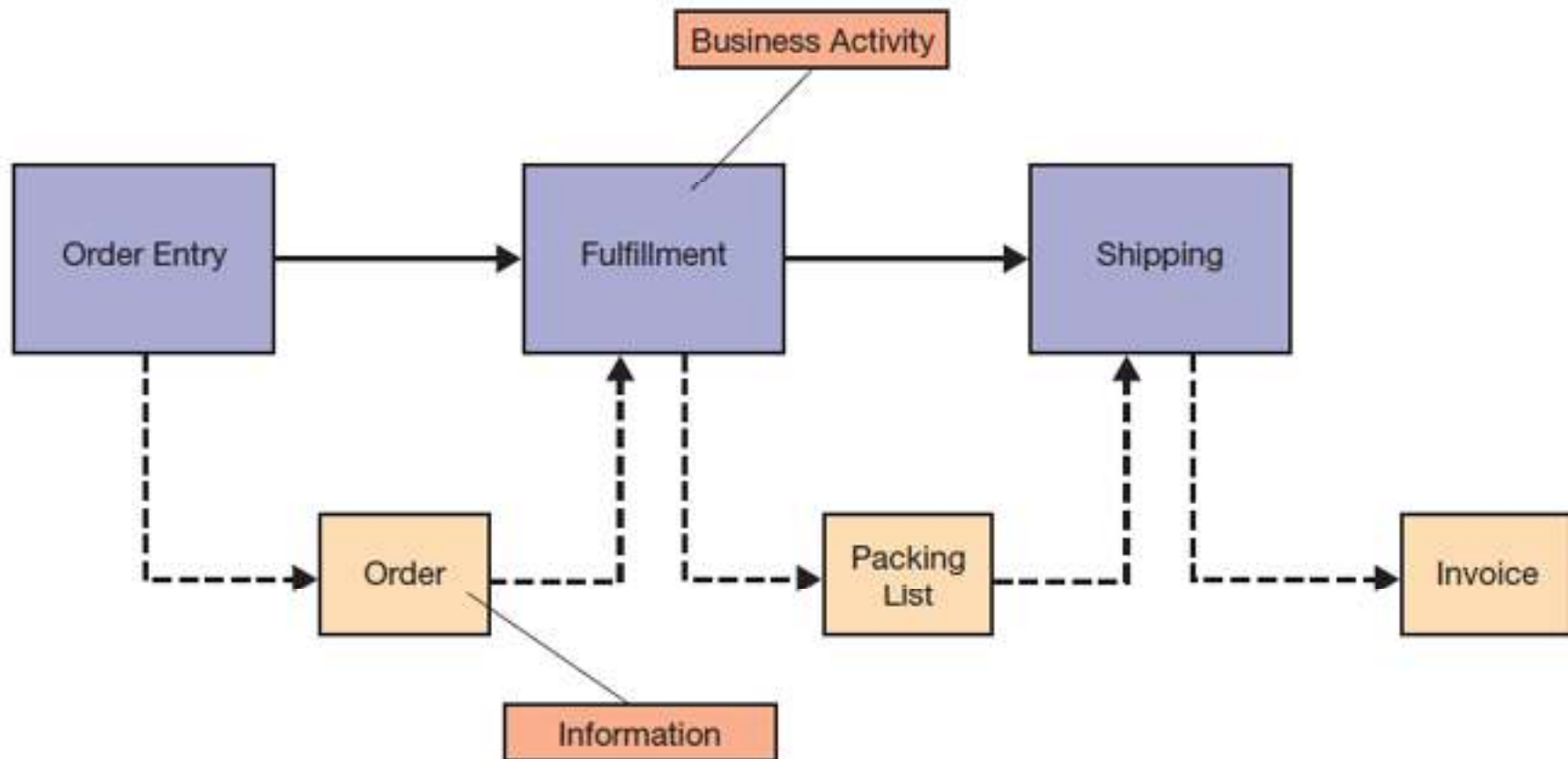
The Rise of Enterprise Systems: Standalone Systems



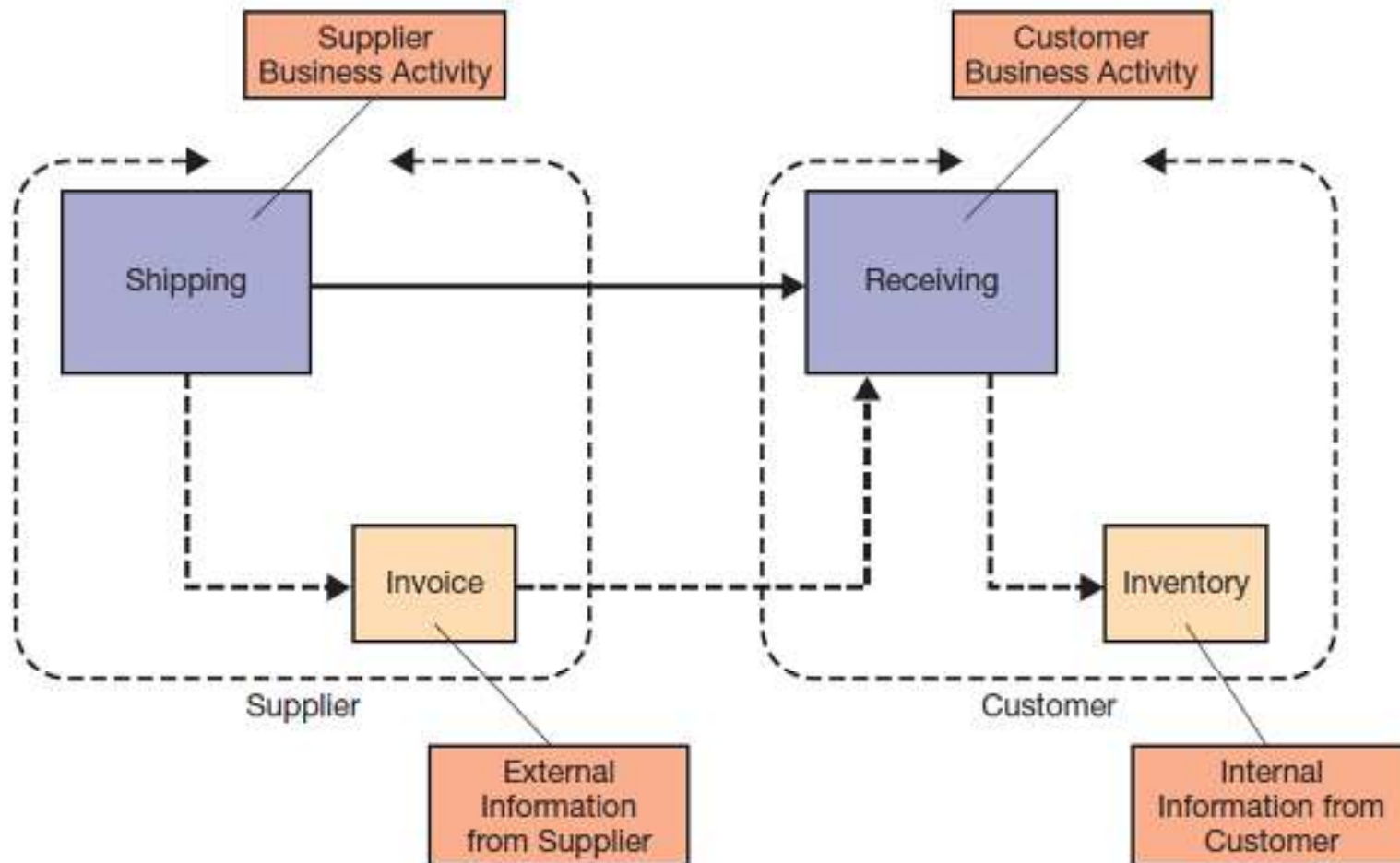
The Rise of Enterprise Systems: Integrated Enterprise Systems



Supporting Business Processes: Internally Focused Systems



Supporting Business Processes: Externally Focused Systems



Improving Business Processes Through Enterprise Systems: Software Types

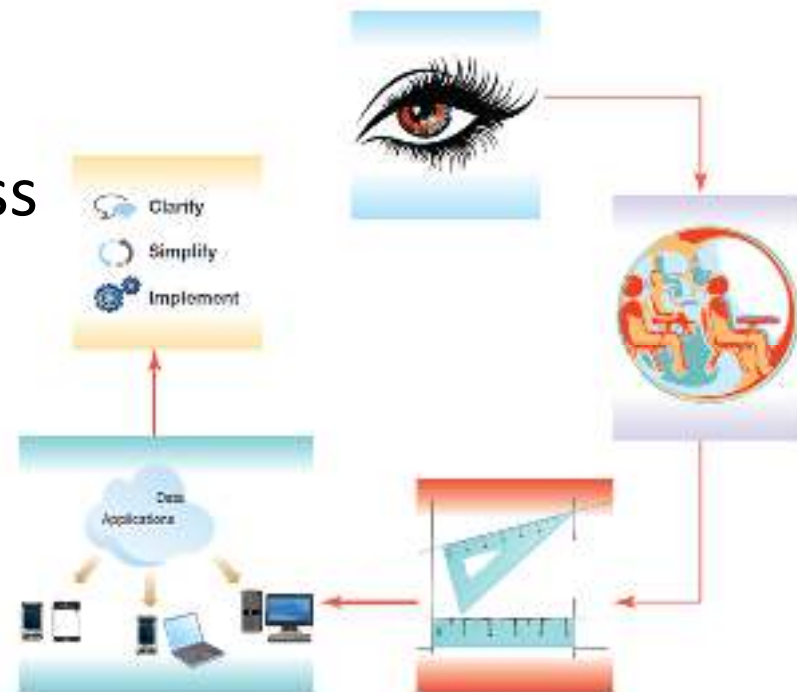
- Packaged Software
 - Also called “off-the-shelf”
 - May or may not require significant configuration
 - Enterprise software often divided into modules
 - Special functionality may require customizing the packaged (or vanilla) version
- Custom Software
 - Designed and developed exclusively for a specific organization (Chapter 9)

Improving Business Processes Through Enterprise Systems: Best Practices

- Packaged Enterprise Software
 - Typically designed to operate with industry standard best practices
 - May not accommodate unique organizational practices that provide a competitive advantage
 - Modifying enterprise software can be a long and costly process, depending on the inherent flexibility of a given system

Improving Business Processes Through Enterprise Systems: BPM

- Business Process Management
 - Actively managing business processes
 - Using a structured approach
 - May be ongoing
 - May include radical process reengineering



Improving Business Processes Through Enterprise Systems: Benefits and Costs

Benefits

- Improved availability of information
- Increased organizational interaction
- Reduced manufacturing lead times
- Improved customer interaction
- Reduced operating expenses
- Reduced inventory
- Reduced IS costs
- Improved supplier integration
- Improved compliance

Costs

- Travel and training costs for personnel
- Ongoing customization and integration costs
- Business process studies
- Project governance costs

56% of ERP implementation costs are over budget
Average over budget is by \$USD 2 million

Enterprise Resource Planning



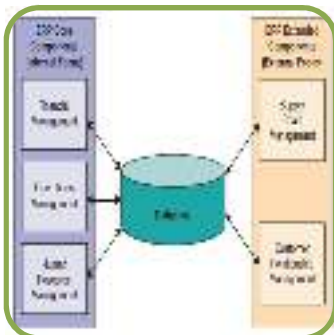
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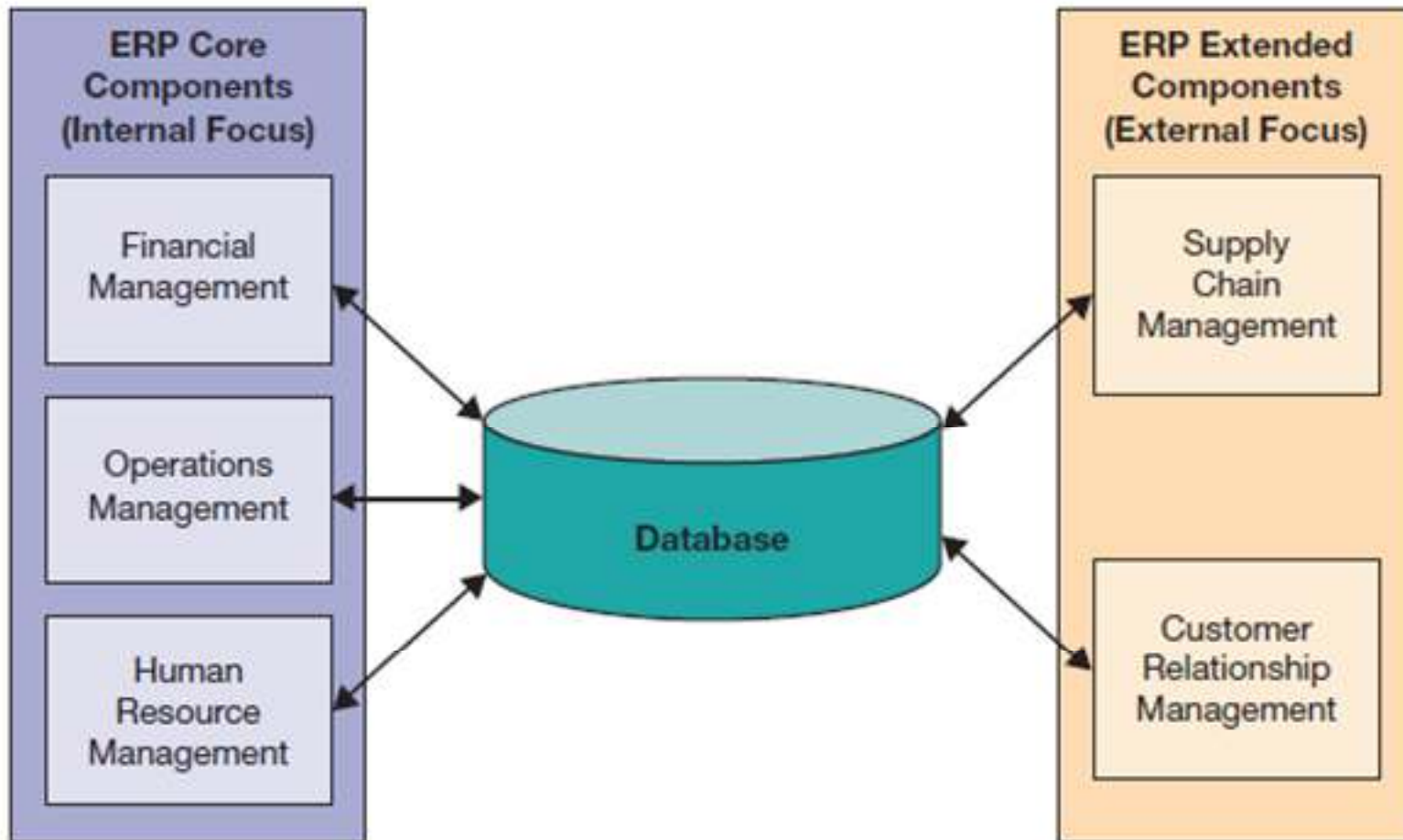
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Achieving for Enterprise System Success

Understand and utilize the keys to successfully implementing enterprise systems.

ERP Core and Extended Components



Responding to Compliance and Regulatory Demands

- ERP systems have built-in control systems
 - Mirror organizational processes
 - Support segregation of duties
 - Monitor business activities
- ERP systems don't solve all compliance problems, but help a lot

Choosing an ERP System

- ERP Control
 - Centralized or decentralized across business units
 - Policies and procedures
 - Do they need to be flexible?
 - Do they need to be standardized?
- ERP Business Requirements
 - What modules are available?
 - How well do they meet specific business needs?

Enabling Business Processes Using ERP Core Components

- ERP systems support core business processes
- Assist with:
 - Order-to-cash
 - Procure-to-pay
 - Make-to-stock/make-to-order
 - Other business processes
- Often packaged industry-specific ERP versions
 - Support industry-specific core processes
 - Health care
 - Automotive
 - Construction
 - Retail
 - Specialized manufacturing industries

Core Business Process Support

Employees - Microsoft Dynamics NAV

No.	Full Name	Job Title	Extension	Search No.	Co.
GH	Alexis Hill	Secretary	8743	GH84	No
JR	John Roberts	Managing Director	4944	JO084RTS	No
LM	Linda Martin	Service Manager	1095	LMARTIN	No
MD	May A. Demsey	Designer	3045	M054PSEI	No
MM	Mark Menden	Production Assistant	4414	M044MEND	No
PS	Peter Sadowski	Sales Manager	1415	P040SADW	No
RL	Ronald Lum	Production Manager	8571	R051LUM	No
TS	Timothy Smith	Production Assistant	4613	T04613SM	No

Shipped Not Invoiced - Microsoft Dynamics NAV

No.	Sell-to Cust.	Sell-to Customer Name	Location C.	Status	Curr.
101005	10001	John Hardware Insuranc...		Released	
101009	10128498	MDIA (Johnson) Hous...	MD	Released	USD
101010	4303390	Astronauts Michberg KD	GR22H	Released	EUR
101014	11800	The Carven Group PLC	BU2E	Released	EUR
100019	1000190	Candover Nederland BV	HE1009	Released	EUR

Customer Statistics...

Customer No.	Balance (USD)
30000	117,997.00
Sales	
Outstanding S...	118,220.98
Shipped Not In...	24,035.95
Outstanding S...	8.00
Service	
Outstanding S...	13.31
Serv Shipped ...	8.00
Outstanding S...	8.00
Total (USD)	551,435.44
Credit Limit S...	8.00
Discount Rece...	117,997.00
Total Sales (C...	8.00

Items - Microsoft Dynamics NAV

No.	Description	Alt.	Base Unit	Cost.	Unit Cost
1088	Bicycle	No	PCS		100.585
1081	Traveling Bicycle	No	PCS		350.599
1188	Floor Wheel	No	PCS		129.071
1118	Box	No	PCS		1.08
1120	Spokes	No	PCS		3.80
1150	Floor Hub	No	PCS		12.441
1161	Axle Front Wheel	No	PCS		6.41
1162	Socket Front	No	PCS		6.71
1140	Tire	No	PCS		1.31
1170	Tube	No	PCS		1.73
1200	Back Wheel	No	PCS		128.862
1250	Back Hub	No	PCS		12.452

Production BOM - Microsoft Dynamics NAV

No.	Description	Status	Unit of Me.
1000	Bicycle	Certified	PCS
1100	Front Wheel	Certified	PCS
1150	Spokes	Certified	PCS
1200	Back Wheel	Certified	PCS
1250	Hub	Certified	PCS
1300	Chain set	Certified	PCS
1700	Spoke	Certified	PCS
15-100	Loudspeaker100W Oakwood...	Certified	PCS

Source: Courtesy of Microsoft Corporation

ERP Installation

- Configuration is critical
 - Specifying the data to be in the underlying database
 - Thousands of decisions related to business processes
 - Companies need to understand how they do business to implement and configure their ERP systems

ERP Limitations

- ERP systems often require organizations to change their business processes
- Once implemented, a company is locked in
- Difficult and costly to make future changes
- Modifications require extra and costly programming

Achieving Enterprise System Success



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Achieving Enterprise System Success

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ERP Recommendations

- Recommendations
 1. Secure executive sponsorship
 2. Get help from outside experts
 3. Thoroughly train users
 4. Take a multidisciplinary approach to implementations
 5. Evolve the implementation

Secure Executive Sponsorship

- Executive Sponsorship is Critical
 - Primary reason for ERP failure
 - Critical for buy-in
 - Dictates resource availability
 - Necessary to authorize business improvements
 - Key to removing obstacles

Get Help from Outside Experts

- ERP systems are very complex
- Typically, IS departments aren't familiar with new systems
- Experts can help
 - Specify needs
 - Select a suitable vendor
 - Manage the implementation project
 - Provide technical expertise

Thoroughly Train Users

- ERP systems are complex from the user perspective as well
 - Training costs are often poorly judged
 - When systems go live it takes employees time to regain productivity
- Proper training can alleviate concerns
- Proper training can mitigate productivity loss
- Proper training can set expectations

Take a Multidisciplinary Approach to Implementations

- ERP systems often affect the entire organization
 - The entire organization is a stakeholder
 - The entire organization needs involvement
 - Failure to have representatives can result in unmet critical needs
 - The project team can't be experts in every aspect of user needs
 - Departments may become hostile if left out of the implementation and needs assessment

Evolve the Implementation

- Recent trend is to move away from large-scale ERP
 - Using cloud-based ERP allows scalability and agility
- Another trend: managing businesses in real time
 - Take advantage of in-memory computing and mobile access

END OF CHAPTER CONTENT

Managing in the Digital World: Amazon.com

- Amazon has grown from an online bookstore to a complete marketplace
 - Almost any product can be purchased through Amazon
 - Amazon uses enterprise information systems to optimize processes, and now provides this to others
 - Amazon Web Services (AWS) is an IS infrastructure rented to companies for their enterprise system needs
 - AWS provides cloud services and hosting for other companies

Brief Case: Crowdsourcing Cinema at Amazon Studios

- Amazon Studios is an innovative film production venture
 - Lets anyone submit screenplays and movies
 - Aims to discover talent that hasn't yet made it to the big time
 - Original content is aired on Amazon Instant Video
 - After feedback, Amazon Studios decides whether to produce a full season
 - Two successes: *Alpha House* and *Mozart in the Jungle*

Ethical Dilemma: Too Much Intelligence? RFID and Privacy

- RFID tags being used to tag pharmaceuticals
 - RFID tags can be read by anyone with an RFID reader, creating concerns that a person's medications could be revealed
- RFID chips can be embedded in people
 - Mexico's attorney general and senior staff
 - Alzheimer's and diabetes patients
 - Implant in kids to prevent kidnapping?
- Lots of public opposition, what are the dangers?

Coming Attractions: Combating Counterfeits Using Liquid Crystal Lasers

- University of Cambridge is developing a liquid crystal laser pattern print for product labels
- Can distinguish a real product from fraudulent knockoffs
- Inexpensive
- Pharmaceutical application
 - Counterfeit pharmaceuticals is a big problem
 - Unlawful and potentially dangerous for patients
 - This technology can help prevent counterfeits

Key Players: The Titans of ERP

- SAP
 - German company founded in 1972
 - Many of the worlds largest companies use SAP software
 - 24% of the ERP market in 2012
- Oracle
 - Best known for database software
 - ERP acquisitions: JD Edwards, PeopleSoft, Siebel CRM
 - 13% of the ERP market in 2012
- Microsoft
 - Largest software company in the world
 - Gained ERP software through acquisition of Great Plains
 - 5% of the ERP market in 2012

Who's Going Mobile: Big ERP Systems Embracing Small Mobile Devices

- ERP users originally used client PCs to access ERP systems
- Mobile users can now access ERP systems on the road
- There are many benefits to mobile ERP
 - Improved service quality
 - Improved productivity
 - Strengthened customer relationships
 - Improved competitive advantage
 - Improved data timeliness and accuracy
- Examples: SAP, Microsoft

When Things Go Wrong: The Not-So-Beautiful ERP Implementation

- Avon announced its “Promise” program in 2009
 - Mobile app and Web site for local sales reps entering product orders
 - Pilot launched in 2012 was a miserable failure
 - Difficult to use; sales reps quit in droves
 - \$125 million loss, 30% stock price decline
 - Finger pointing: Avon, SAP, third party

Industry Analysis: The Automobile Industry

- More than 800 million cars on the road, 83 million sold worldwide in 2013
 - Sales predicted to climb to 100 million by 2018
 - China, Brazil, Russia, India, other developing nations
- Growing global demand for energy-efficient cars
- Auto industry efforts:
 - Evolving global network of suppliers
 - Broader supply chains bring new innovations to market
 - USB ports, hard drives, mobile data connectivity
 - Google working on a self-driving car
 - Marketing enhancements via virtual showrooms