

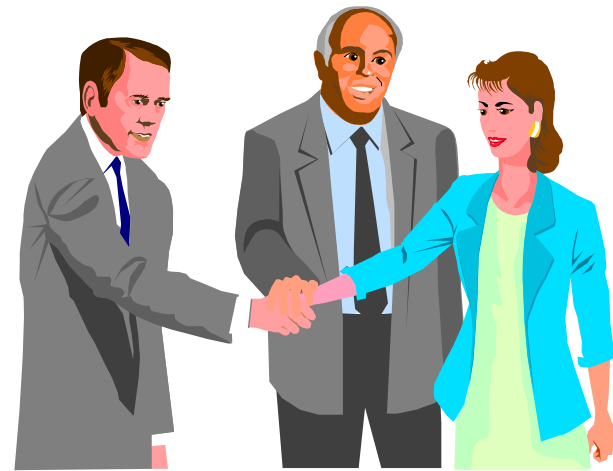
Strategic Information Systems & Business Reengineering

Ch 3

Strategic Information Systems

Information systems designed to support or shape competitive strategy.

- Long-range planning
- Response Management
- Innovation



Strategic Advantage

Only when SIS combine with structural changes can they help provide strategic advantage.

The Role of IT

- IT creates applications that provide strategic advantages to companies
- IT is a competitive weapon
- IT supports strategic change, e.g, *re-engineering*
- IT networks with business partners
- IT provides cost reduction
- IT provides competitive business intelligence

Competitive Intelligence



Competitive Advantage in the Web Economy

Competitive Strategy

Search for a competitive advantage in an industry, which leads to control of the market.

Competitive Advantage

Look for a competitive necessity, which will help your company keep up with the competitors.

Sustainable Strategic Advantage

Maintain profitable & sustainable position against the forces that determine industry competition.

Competitive Advantage

Techniques for competitive achieving competitive advantage.

- Build barriers to competition
- Increase customer switching costs
- Change the basis of competition
- Change the nature or environment of business
- Optimize pricing strategy

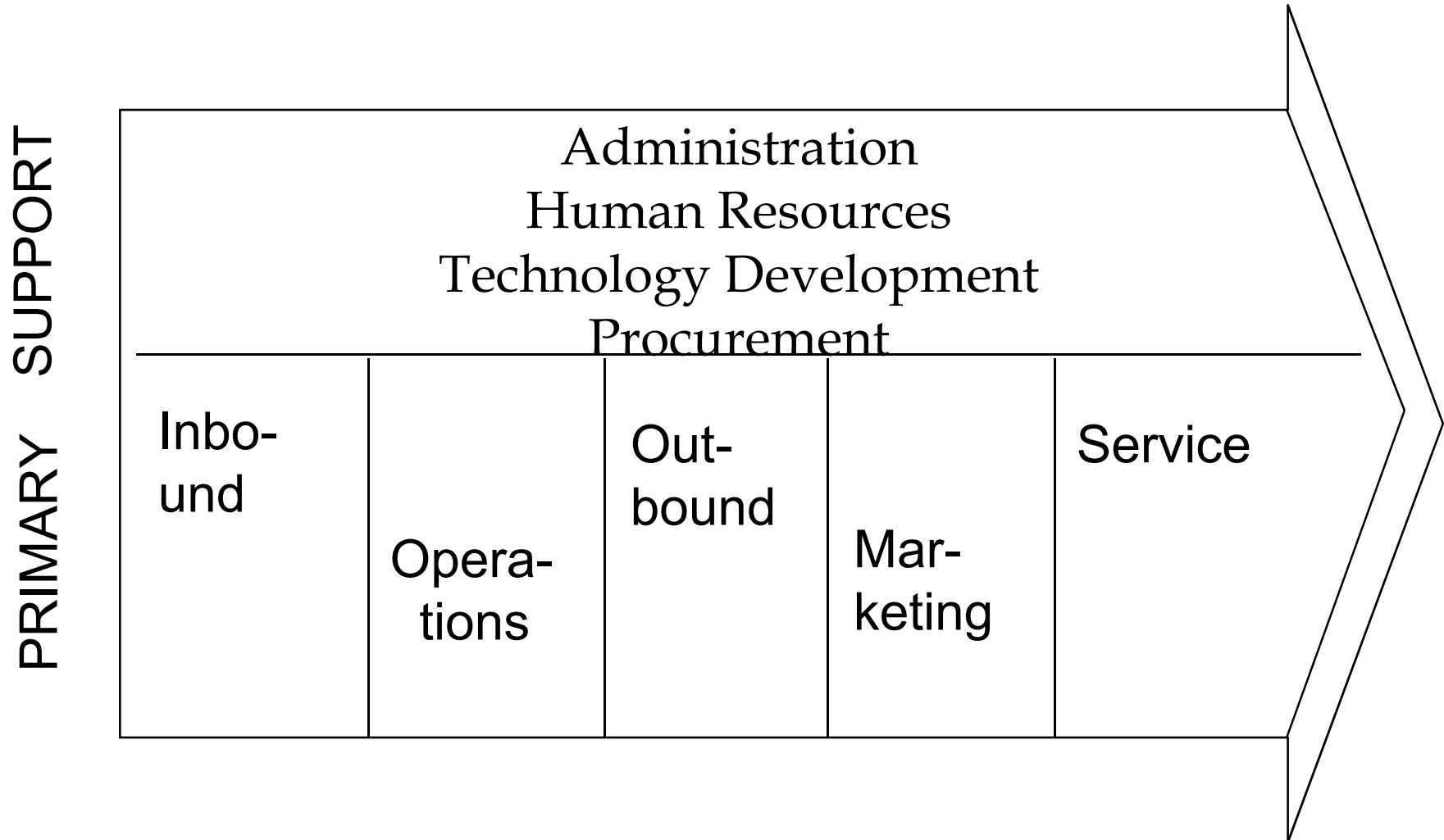
Frameworks

- Value chain
- Competitive forces
- Global business drivers
- Customer resource life cycle

Frameworks

- Value chain
- Competitive forces

Porter's Value Chain



Porter's Value Chain

This framework can help understand how Information Technologies can support different ones of the nine activities to add value.

Competitive Forces

- New competitors
- Bargaining power of suppliers
- Bargaining power of customers
- Substitute products
- Rivalry from existing firms

Competitive Forces

Responses to maintain industry excellence

- Cost Leadership
- Differentiation
- Focus

Response Strategies

(Porter, 1985)

COST LEADERSHIP

Providing products and/or services at the lowest cost in the industry.

DIFFERENTIATION

Being unique in the industry

FOCUS

Selecting a niche market and achieving cost leadership and/or differentiation.

Response Strategies

(added by Porter and others)

GROWTH

Increasing market share, acquiring more customers or selling more products

IMPROVE INTERNAL EFFICIENCY

To improve employee and customer satisfaction

ALLIANCES

Working with business partners to create synergy & provide opportunities for growth

CRM

Customer-oriented approaches, e.g. the customer is king (queen)

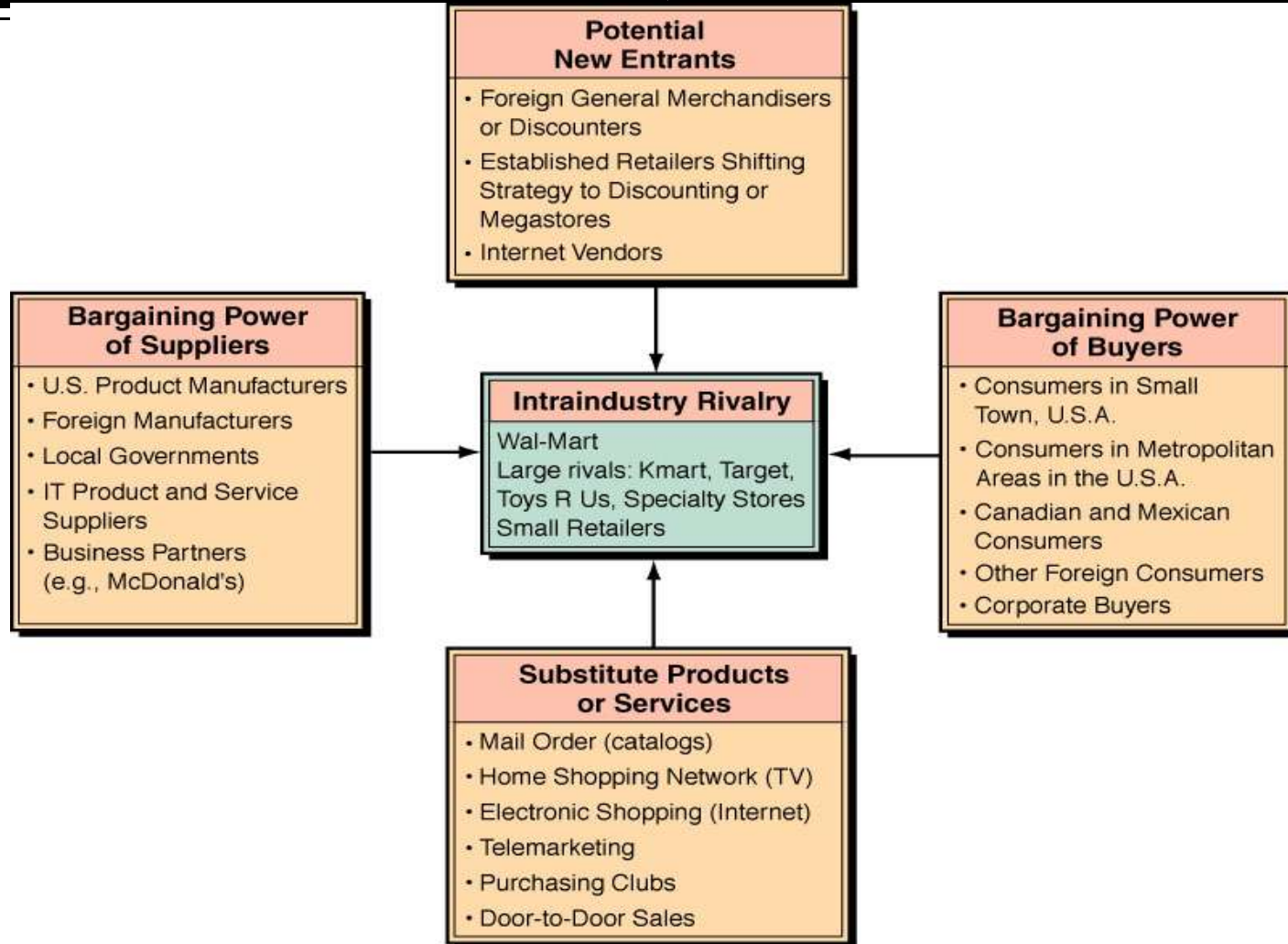
INNOVATION

Developing new products & services

Case: Trucking , IT & Cost Leadership

- JB Hunt (www.jbhunt.com)
 - Uses web-based technology to:
 - trigger lowest possible fuel costs
 - notify customers of accurate fuel surcharge
 - provide an on-line “proof of delivery”
- Roadway Express (www.roadway.com)
 - Uses IT technology to:
 - compare vendor’s prices and related procurement expenses
 - monitor the exact location of trucks

Porter's Model in Action



Porter's Model in Action (cont.)

- Step 1:** The players in each force are listed.
- Step 2:** An analysis is made which relates Porter's determining factors.
- Step 3:** A strategy is devised to defend against these factors.
- Step 4:** Support information technologies are employed.

CASE: Daimler Chrysler

Problem:

- ✓ Chrysler's program with part suppliers was failing
- ✓ In 1999, the company lost \$US 2.6 Billion

Solution:

- ✓ Suppliers began using Lotus notes/ Damino
- ✓ Measurement reports to static HTML web pages
- ✓ E-procurement exchange at Convisint

Results:

- ✓ Chrysler saves billions

Porter's Value Chain Model

PRIMARY ACTIVITIES

- In bound logistics (in puts)
- Operations (manufacturing & testing)
- Outbound logistics (storage & distribution)
- Marketing & sales
- Service



***Supply
Chain***

Porter's Value Chain Model

SUPPORT ACTIVITIES

- Firm Infrastructure
- Human Resources Management
- Technology Development
- Procurement

VALUE SYSTEM

- A firm's value chain is part of a larger stream of activities, which Porter calls a **“Value System”**.
 - Includes the suppliers that provide the necessary inputs AND their value chains.
 - Applies to both products & services, for any organization, PUBLIC or PRIVATE.
 - Is the basis for the Supply Chain Management.

CASE: Frito Lay uses IT & the Value Chain

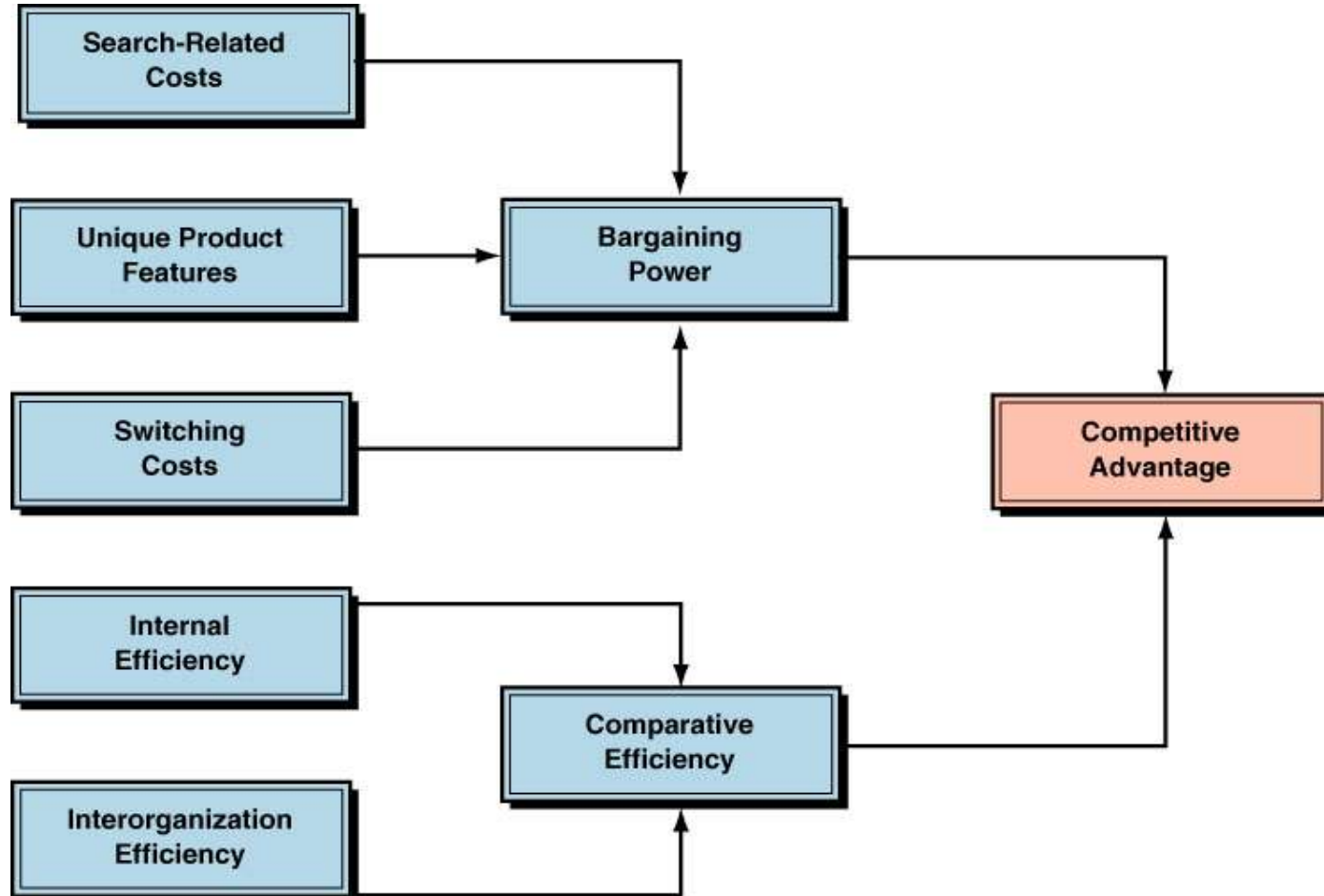
- World's largest snack food producer and owner of Pepsi products.
- SIS System:
 - Integrates marketing, sales, manufacturing, logistics, finance.
 - Provides managers with information about suppliers, customers & competitors.
 - Enables employees to access valuable information.
- Frito Lay's use of IT allows for an optimal functioning of the value chain.

The Value Chain Model

- *The Value System Model is used to:*
 - Evaluate a company's process and competencies.
 - Investigate whether adding IT supports the value chain.
 - Enable managers to assess the information intensity and the role of IT.



Bakos & Treacy Framework



Web-based Strategic Information Systems (SISs)

- Many of the SISs of the 70s - 90s were based on privately owned networks, or *organizational information systems* (OISs).
- EDI-based systems are of key importance.
- SISs are changing the nature of competition.
- In some cases, SIS renders traditional business procedures obsolete.
 - *E.g, Encyclopedia Britannica*

CASE: Mobile Oil Moves to Web-based System

Problem:

- Largest marketer of lubricants in the USA
- In 1995, introduced EDI system
 - Used to place orders, submit invoices & exchange business documents
 - It was too expensive, too complex to use

Solution:

- In 1997, moved to web-based extranet-supported B2B system

Results:

- Reduced transaction cost from \$45/order to \$1.25
- Fewer shortages, better customer service
- decline in distributor administration costs

Examples of EDI/Internet-based SIS

(for individual Companies)

- **Electronic Auctions / Lelang**
- **Electronic Biddings / Penawaran**
- **Buyer-Driven Commerce**
- **Single Company Exchange**
- **Direct Sales**

Examples of EDI/Internet-based SIS

(for Groups of Companies)

- **Industry Consortia**
- **Horizontal Consortia**
- **Web-based Call Centers**
- **Web-based Tracking Systems**
- **Web-based Intelligent Agents**
- **Web-based Cross Selling**
- **Accessing knowledge via Intranets**

Growth of Companies Operating in a Global Environment

- Fully Global or Multinational Corporations
- Companies that export or import
- Companies facing competitions of low labor cost and high natural resources
- Companies with low cost production facilities abroad
- Small companies that can now use EC to buy/sell internationally



A Global Drivers Framework

(Ivers et al., 1993)

- “The success of companies doing business in a competitive environment depends on the link between their information systems AND their global business strategy.”
- This framework provides a tool for identifying the firm’s *global business drivers*.
- Drivers look at the current and future needs, focusing on worldwide implementation.

Global Business Drivers

- Joint resources
- Flexible operations
- Risk reduction
- Global products
- Quality
- Suppliers
- Corporate customers

Incremental vs Radical Change: TQM vs Reengineering

Incremental:

Focus on processes to eliminate, rather than correct problems.

Radical:

Focus on inputs and outputs to completely revise the methods

TQM

Total Quality Management

- Goals
- Measures
- Root Causes

Total quality management is a cultural change designed to take advantage of the desire of individual workers to do a better job.

Reengineering

The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed.

- Customers: knowledgeable and demanding
- Competition: continuously increasing
- Change: constant

Principles of Business Process Reengineering

- Combines jobs
- Empowers employees
- Natural and parallel process steps
- Multiple versions of processes
- Work done where most appropriate
- Minimal controls, checks and non-value added work
- Reduce external contacts and increase alliances
- Single point of customer contact
- Hybrid centralized/decentralized organization

Increment vs Radical

	Radical	Incremental
Change	Abrupt, volatile	Gradual, constant
Effects	Immediate	Long term, subtle
Involvement	Few champions	Culture
Investment	High initial, less ongoing	Low initial, high ongoing
Orientation	Technology	People
Focus	Profits	Processes

Issues

- Nurturing creativity and employee participation
- Planning strategic information systems
- BPR is major surgery that fails up to 75-80% of the time
- IT changes the ethical environment