

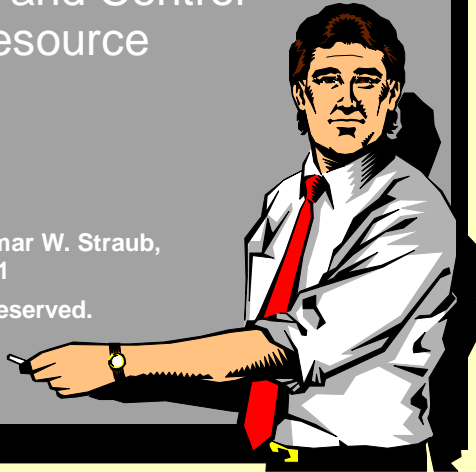
# IT Strategy and Control of the IT Resource

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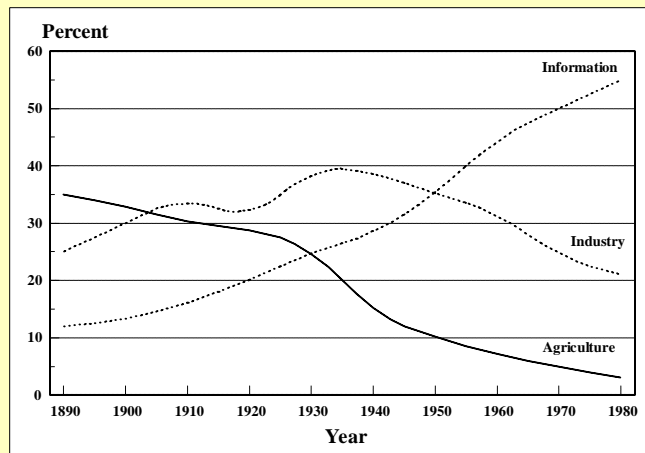
Lecture



## Outline of Topics

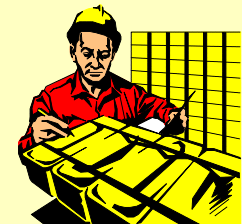
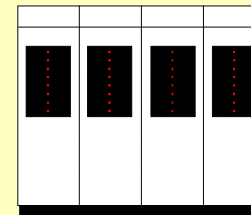
- The emergence of IT as a strategic resource
- The theory of strategic information systems
- Porter & Millar's theory of marketing strategy and forces of competitiveness
- Electronic vertical integration and the Tom Thumb Promise Club

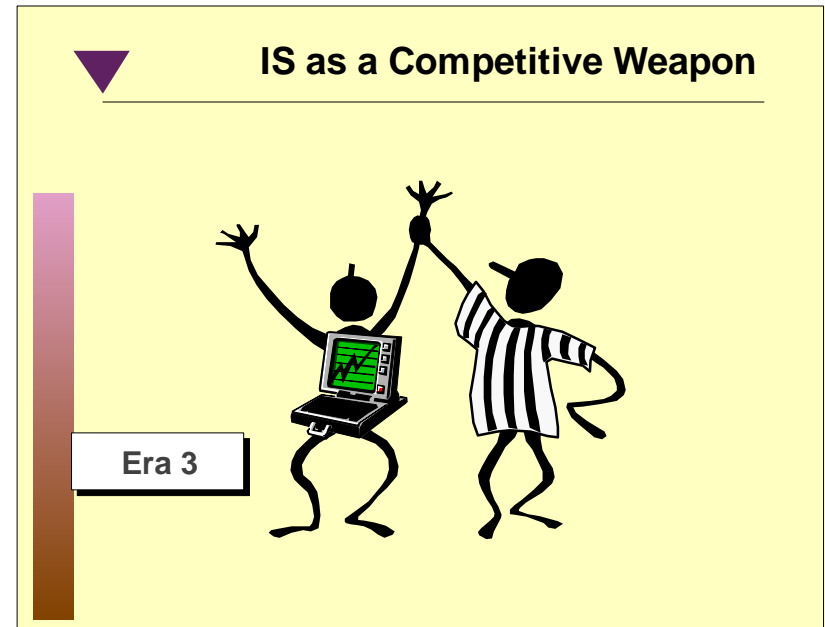
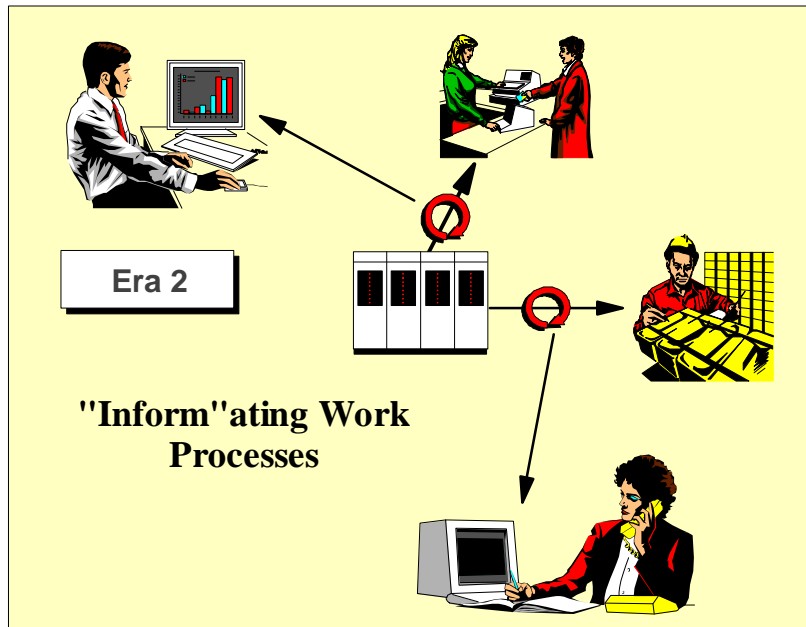
Distribution of Workers in the United States



Era 1

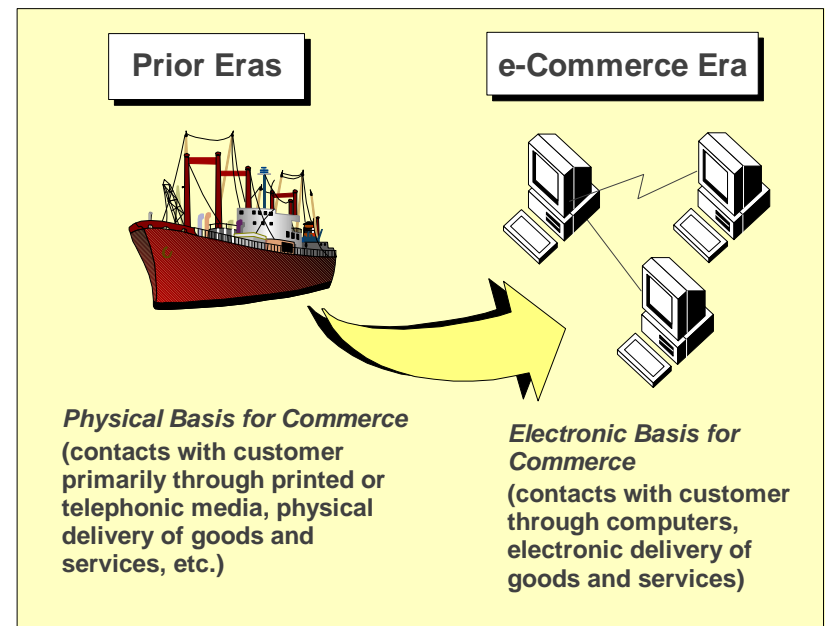
Automation of Work Processes





**Cash's 3 Eras of IT Use**

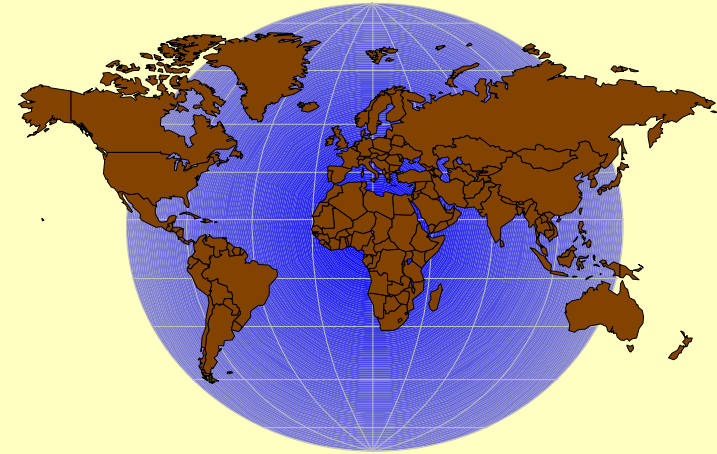
	IT Focus	Generic Systems	Purpose
<b>Era 1</b> (1950s-1960s)	Organization	TPS, MIS	Efficiency
<b>Era 2</b> (1970s-early 1980s)	Individual	DSS, ES	Effectiveness
<b>Era 3</b> (late 1980s-1990s)	Inter-industry	Customer Ordering Systems, EDI, EFT	Strategic/Competitiveness



## EC as New Era?



	IT Focus	Generic Systems	Purpose
EC Era (1990s-???)	Customers & Consumers	WWW	Market Penetration



"Anyone, anywhere, anytime..."

## Definition of Strategic Information Systems?

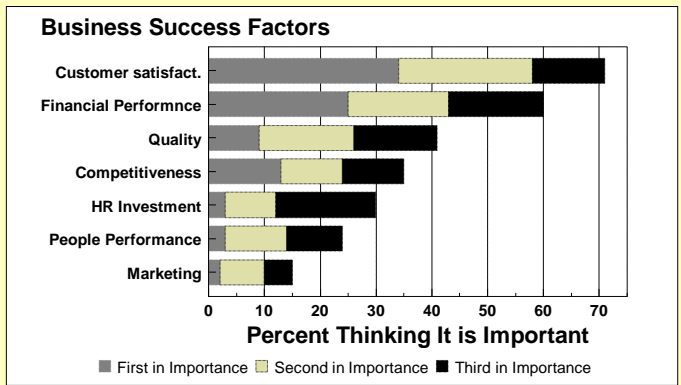


1. Systems in which the customers directly perceive the value-added by the system....
2. Systems which alter the structure of the firm.....
3. Systems which alter the structure of the industry....

Why are customers and competitiveness so important in discussing Information Technology (IT)?



### Executives' Assessment of the Importance of Certain Critical Success Factors for their Organizations



--New York Times, February 19, 1995, F 23.

### Porter and Millar's Set of Organizational Strategies Affecting IT

1. Low cost provider



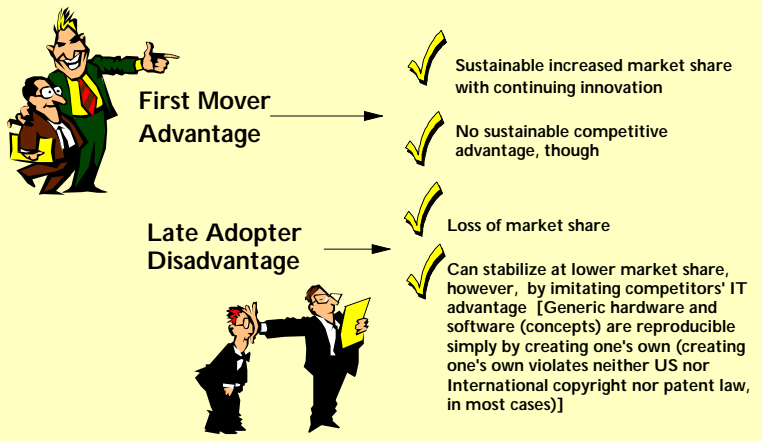
2. Differentiation (through IT supporting the value-chain or through IT as part of the product)



3. Niche



### According to the theory of strategic information systems, using IT in any one of these three strategies can lead to increased market share, but....



### Sustainable Competitive Advantage

- Strategic systems do not yield inherent competitive advantage because systems can be readily imitated by competitors who can recapture production and transaction economies
- However, when strategic systems leverage differences in strategic resources in general, then they can lead to a sustainable advantage



-Source: Clemons and Row (1991)

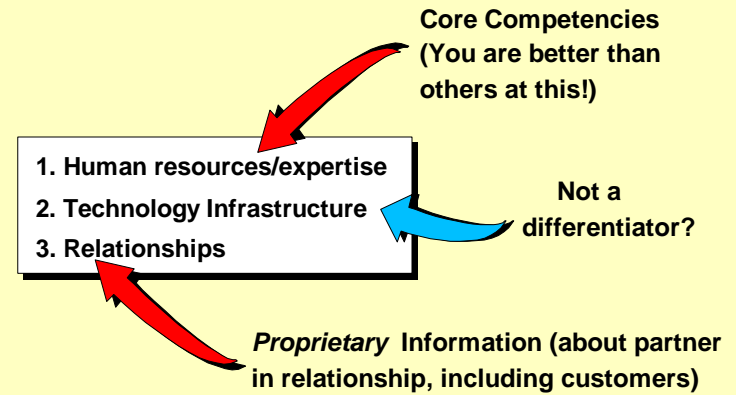
## Sustainable Competitive Advantage

- In short, this resource-based theoretical perspective suggests that...
  - Human resources/expertise
  - Technology
  - Relationships
- ...can lead to a sustainable competitive edge



-Source: Ross, Beath & Goodhue (1996); Weill & Broadbent (1997)

## Sustainable Competitive Advantage



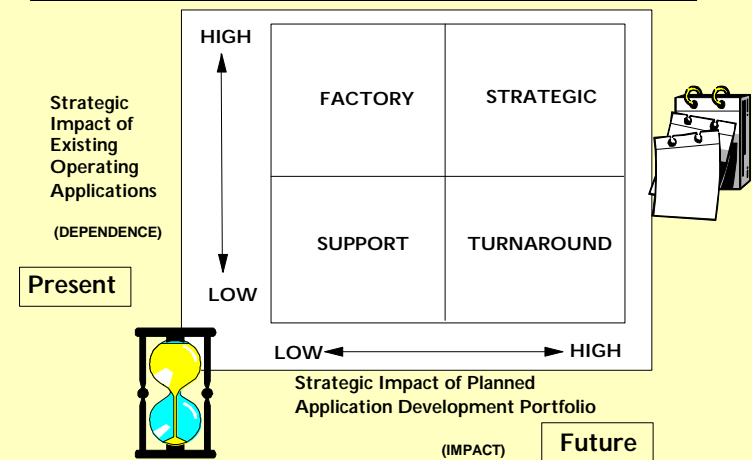
-Source: Evans & Wurster (1997)

To increase market share and/or hold onto market share, firms need to position themselves to stay in front of the train of technological change....

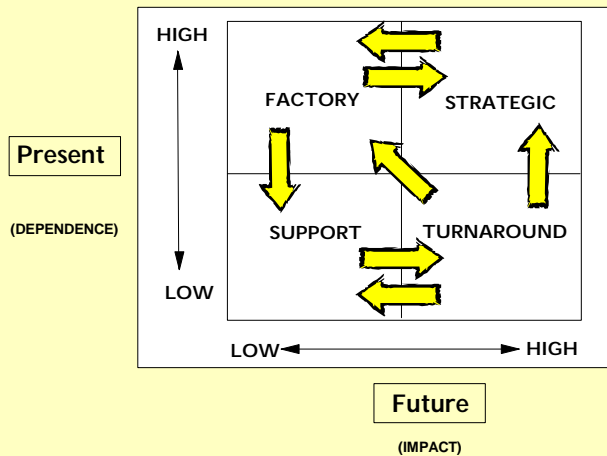


or risk getting bounced from the track!

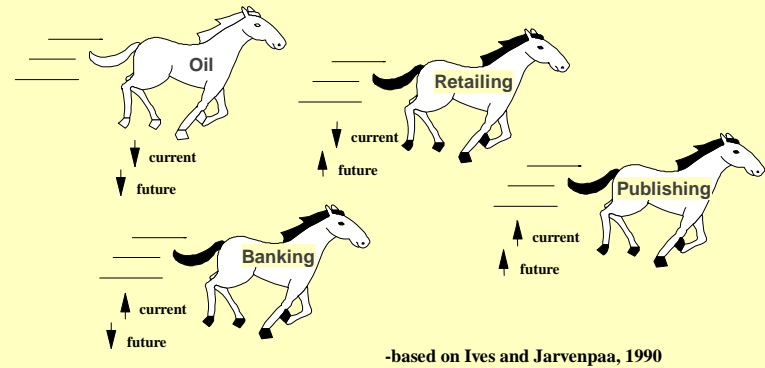
## McFarlan and McKenney's Strategic Grid (1986)



### Industry or Organizational Changes Most Likely on the Strategic Grid

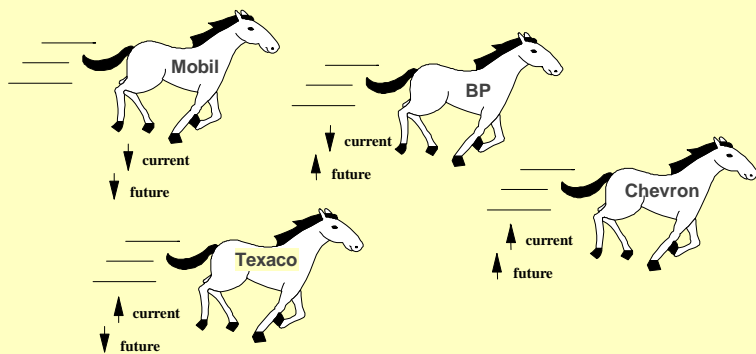


### Strategic Information Technology by Industry: Current and Future Use (1990 report)

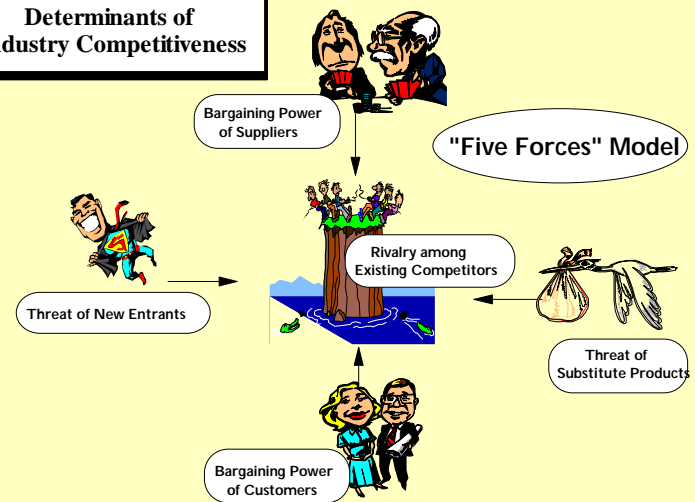


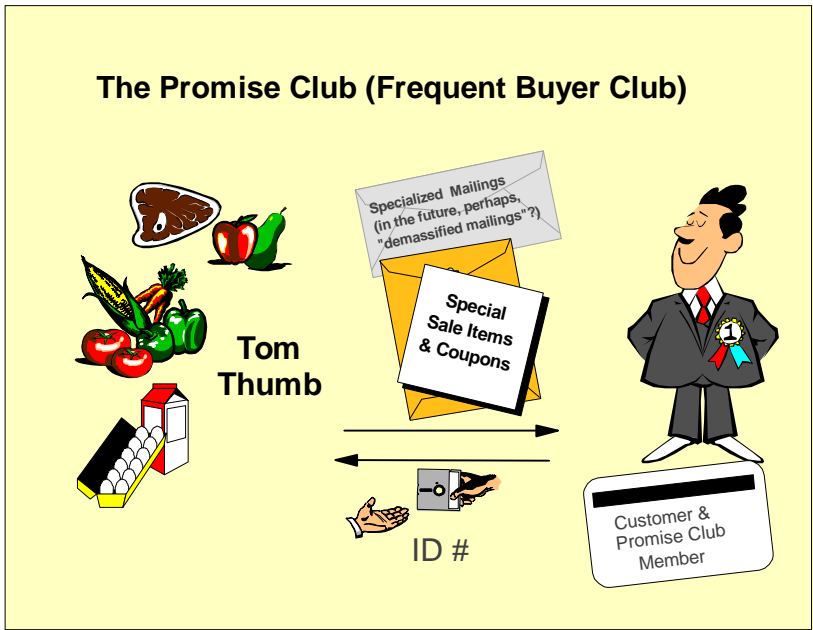
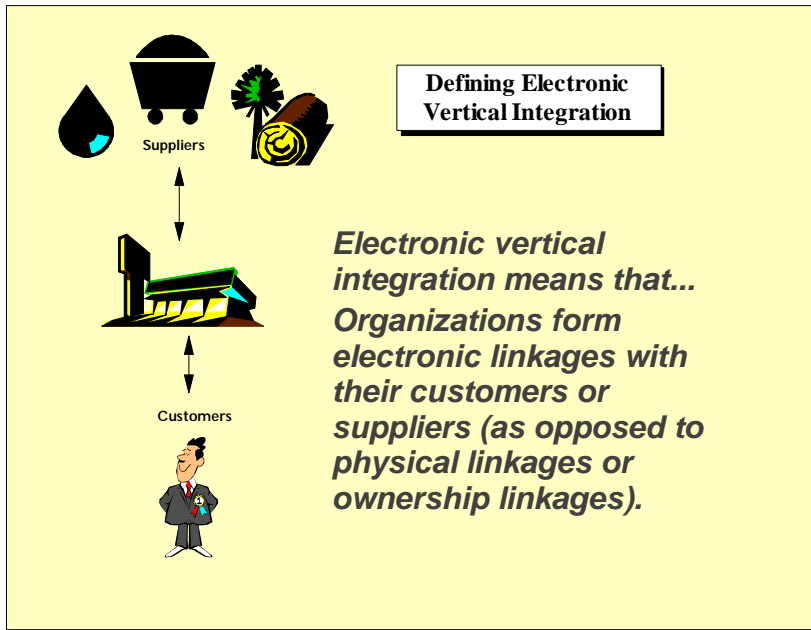
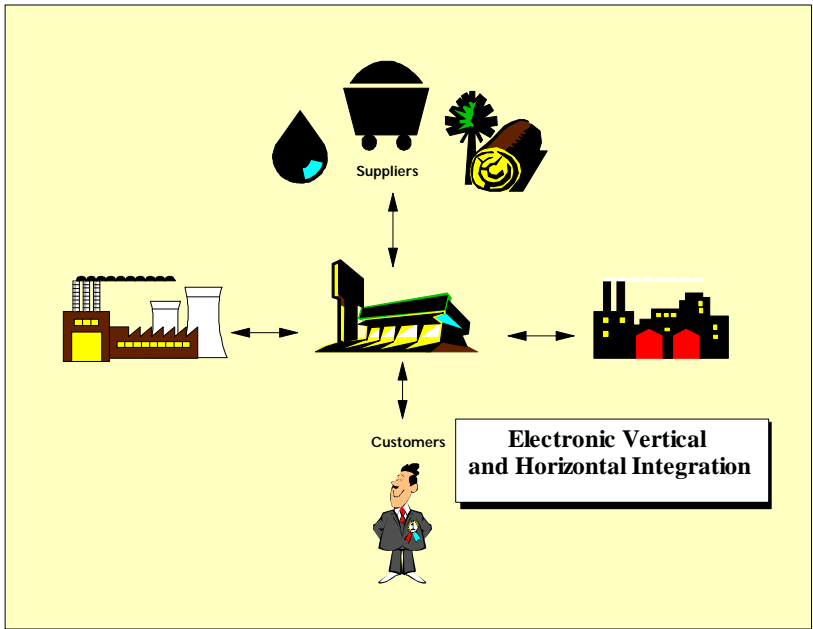
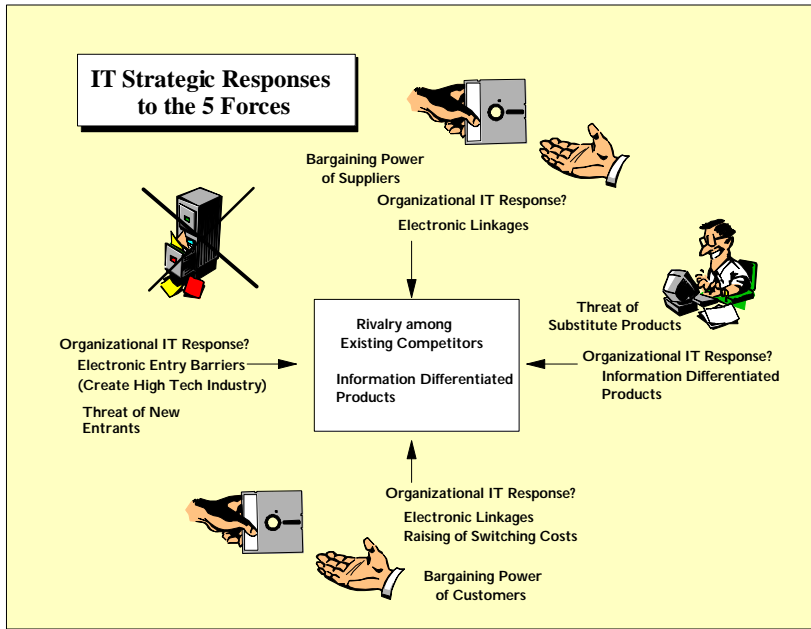
-based on Ives and Jarvenpaa, 1990

### Strategic Information Technology by Firm within Industry: Illustrative Relationships



### Porter and Millar's Determinants of Industry Competitiveness





### Definition of Strategic Information Systems?



4. Systems which enhance the competitiveness of a firm....
5. Systems which create a new information product.....
6. Systems which create an environment for innovation....
7. Systems which create electronic links between organizations (intra-organizational systems or IOS)...
8. Systems which vertically or horizontally integrate....



### Managerial Guidelines

- ✓ Always consider the strategic implications of new information systems
  - With an understanding of SIS, managers are less likely to unconsciously trade away (or source out) these competitive advantages

### Questions for Review



1. What is a strategic information system (SIS)?
2. What are the principles of the theory of strategic information systems?
3. Use SIS theory to explain movements of firms over time on the Strategic Grid.
4. How can an SIS enhance a firm's competitiveness, as conceived by the 5 Forces Model?