Strategic Use of Information Resources

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DELL

- In 1994 Dell stopped selling PCs through retail stores:
  - Uses an integrated IT platform that allows customers to order a PC to their specifications
- *Strategic* use of IS (vs. use of IS): cost savings from reduced inventories $\longrightarrow$ passed on to consumers
- COMPETITIVE ADVANTAGE for Dell
  - Used its information resources to achieve high volumes without the high costs of the industry’s traditional distribution channels

Outline

- Evolution of information resources
- Information resources as strategic tools
- How can information resources be used strategically?
- Strategic alliances
- Risks

Information Resources Evolution

- Over the past decades the use of information resources has changed
- Organizations have moved from an “efficiency model” of the 1960’s to a “value creation model” of the 2000’s
- Companies seek to utilize those technologies that give them competitive advantage
- Maximizing the effectiveness of the firm’s business strategy requires the GM to identify and use information resources

	1960s	1970s	1980s	1990s	2000+
Primary Role of IT	**Efficiency** **Automate existing paper-based processes**	Effectiveness Solve problems and create opportunities	Strategic Increase individual and group effectiveness	Strategic Transform industry/organization	Value creation Create collaborative partnerships
Justify IT expenditure	**ROI**	Increasing productivity and decision making	Competitive position	Competitive position	Adding Value
Target of systems	Organization	Individual manager/ Group	**Business processes**	Business processes ecosystem	Customer, supplier, ecosystem
Information model	Application specific	**Data-driven**	User-driven	Business-driven	Knowledge-driven
Dominant technology	Mainframe-based	Minicomputer-based	Microcomputer "decentralized intelligence"	**Client-Server "distribution intelligence"**	Internet "ubiquitous intelligence"
Basis of Value	Scarcity	Scarcity	Scarcity	Plentitude	**Plentitude**
Underlying economics	**Economic of information bundled w/ economics of things**	Economic of information bundled w/ economics of things	Economic of information bundled w/ economics of things	Economic of information separated f/ economics of things	Economic of information separated f/ economics of things

Figure 2.1 Eras of information usage in organizations

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Information Resources

- The term information resources is defined as the available data, technology, people, and processes available to perform business processes and tasks
- Information resources can be either **assets** or **capabilities**
  - *IT asset* is anything, tangible or intangible, that can be used by a firm in its processes for creating, producing and/or offering its products (IT infrastructure is an asset)
  - *IT capability* is something that is learned or developed over time in order for the firm to create, produce or offer it products

IT Assets

- IS infrastructure:
  - It includes data, technology, people, and processes.
  - The infrastructure provides the foundation for the delivery of a firm’s products or services.
- Information repository:
  - Logically-related data that is captured, organized and retrievable by the firm
- Web 2.0 assets now include resources used but not owned by the firm (eBay, Facebook, etc.)

IT Capabilities

- Three major categories of IT capabilities:
  - **Technical skills** - applied to designing, developing and implementing information systems
  - **IT management skills** - critical for managing the IT function and IT projects
  - **Relationship skills** - can either be externally-focused or spanning across departments

Advantages of Information Resources

- General managers evaluating an information resource for competitive advantage need to ask:
  – What makes the information resource valuable?
  – Who appropriates the value created by the information resource?
  – Is the information resource equally distributed across firms?
  – Is the information resource highly mobile?
  – How quickly does the information resource become obsolete?

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The Strategic Landscape

- Managers confront elements that influence the competitive environment
- Managers must take multiple view of the strategic landscape, such as:
  – First view - Porter’s five competitive forces model
  – Second view - Porter’s value chain
  – Third view – focuses on the types of IS resources needed (Resource Based View - RBV)

Using Information Resources to Influence Competitive Forces

- Porter’s five forces model show the major forces that shape the competitive environment of the firm

1. **<u>Threat of New Entrants</u>**: new firms that may enter a companies market
2. **<u>Bargaining Power of Buyers</u>**: the ability of buyers to use their market power to decrease a firm’s competitive position
3. **<u>Bargaining Power of Suppliers</u>**: the ability suppliers of the inputs of a product or service to lower a firm’s competitive position
4. **<u>Threat of Substitutes</u>**: providers of equivalent or superior alternative products
5. **<u>Industry Competitors</u>**: current competitors for the same product

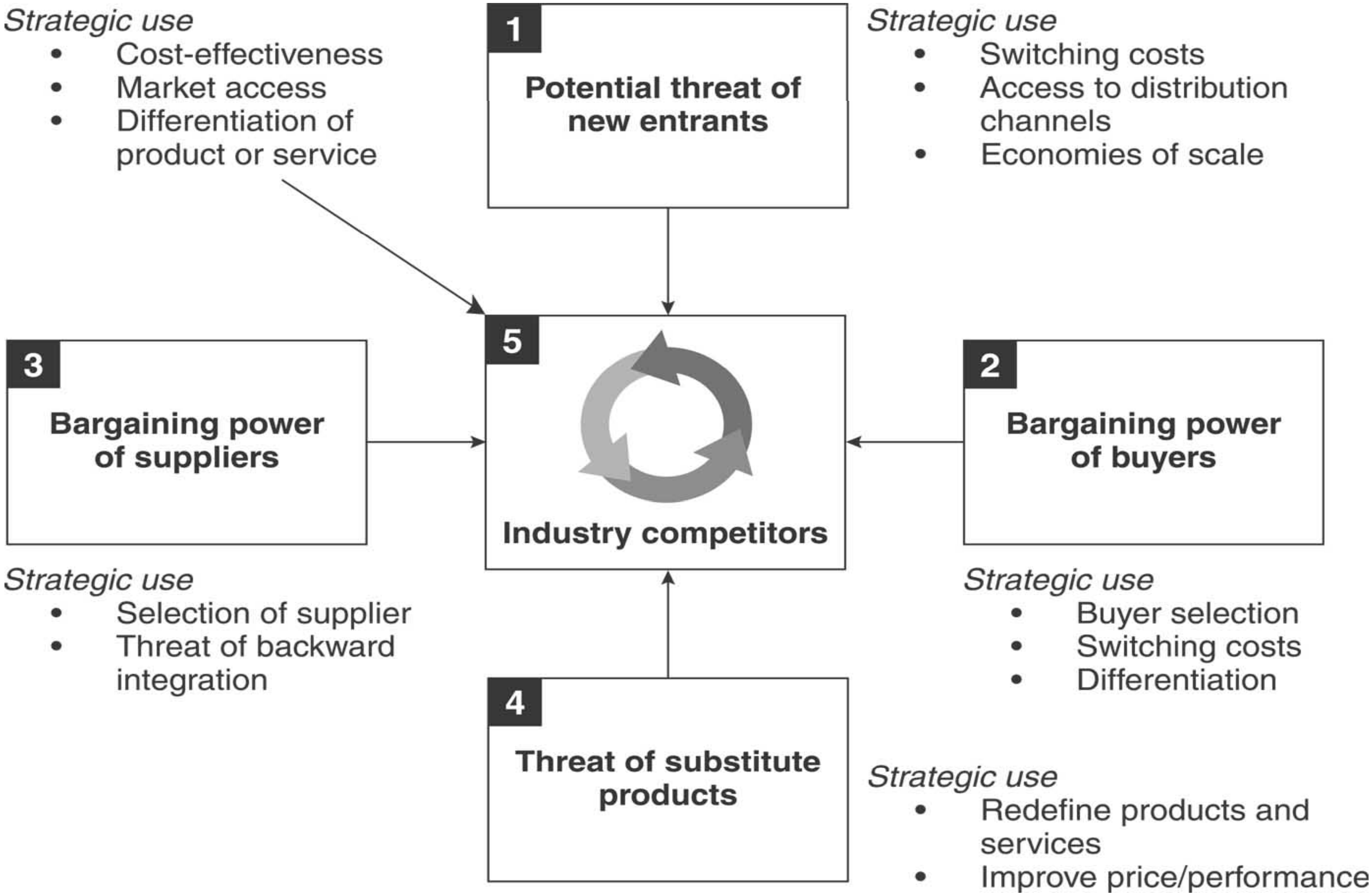

Figure 2.3 Five competitive forces with potential strategic use of information resources.

Application of 5 Forces Model

Competitive Force	IT Influence on Competitive Force
Threat of New Entrants	Can be lowered if there are barriers to entry. Sometimes IS can be used to create barriers to entry
Bargaining Power of Buyers	Can be high if it’s easy to switch. *Switching costs* are increased by giving buyers things they value in exchange such as lower costs or useful information
Bargaining Power of Suppliers	Force is strongest when there are few firms to choose from, quality of inputs is crucial or the volume of purchases is insignificant to the supplier
Threat of Substitute Products	Depends on buyers’ willingness to substitute and the level of switching costs buyer’s face
Industrial Competitors	Rivalry is high when it is expensive to leave an industry, the industry’s growth rate is declining, or products have lost differentiation

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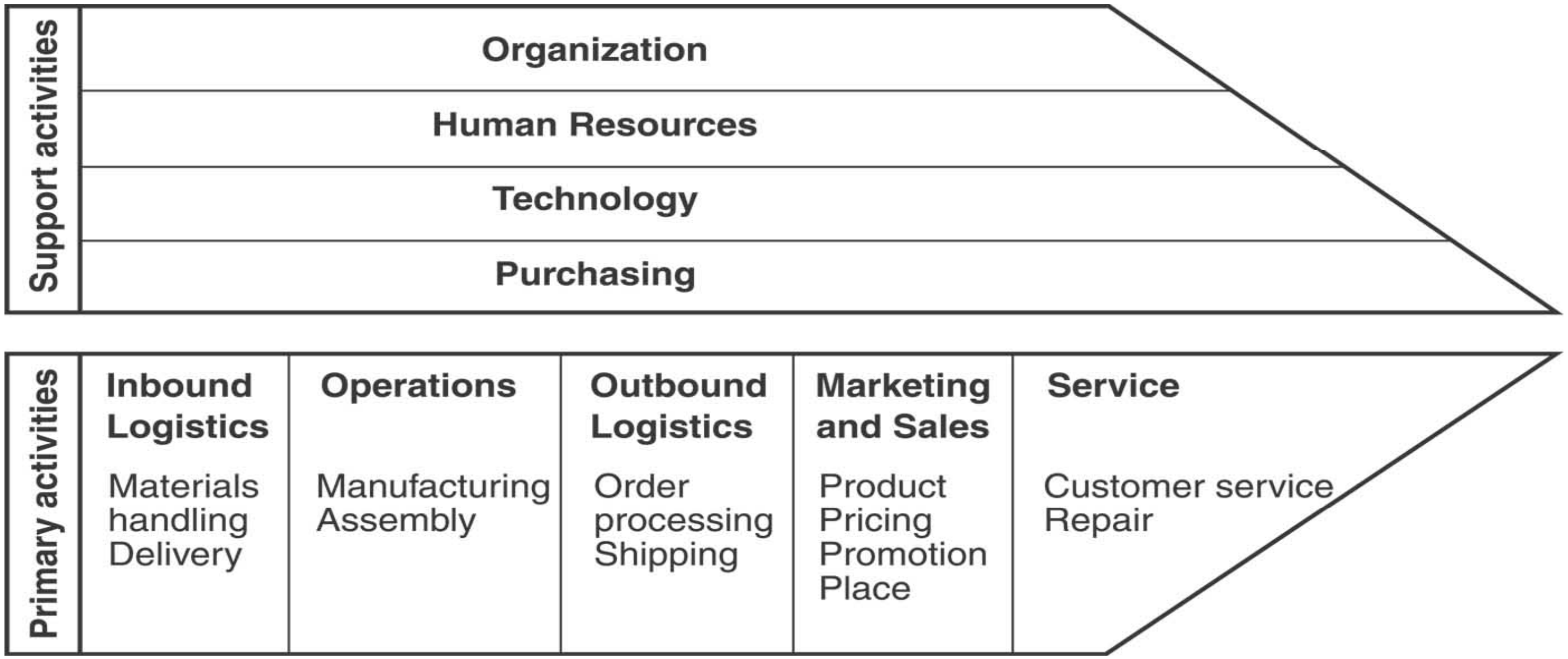
Porter's Value Chain Model

- Value chain model addresses the activities that create, deliver, and support a company's products or services
- Two broad categories:
  - Primary activities – relate directly to the value created in a product or service
  - Support activities – make it possible for the primary activities to exist and remain coordinated



Altering the Value Chain

- The Value Chain model suggest that competition can come from two sources:
  - **Lowering the cost** to perform an activity and
  - **Adding value to a product or service** so buyers will be willing to pay more
- Lowering costs only achieves competitive advantage if the firm possesses information on the competitor’s costs
- Adding value is a strategic advantage if a firm possesses accurate information regarding its customer such as: which products are valued? Where can improvements be made?

The Value Chain System

- The value chain model can be extended by linking many value chains into a <u>**value system**</u>
- Much of the advantage of supply chain management comes from understanding how information is used within each value chain of the system
- This can lead to the formation of entirely new businesses designed to change the information component of value-added activities

CRM and the Value Chain

- Customer Relationship Management (CRM) is a natural extension of applying the value chain model to customers
- CRM is a coordinated set of activities, including management activities performed to obtain, enhance relationships with, and retain customers
- CRM can lead to better customer service, which leads to competitive advantage for the business

Supply Chain Management

- An approach that improves the way a company finds raw components it needs to make a product or service, manufactures that product or service, and delivers it to customers
- Technology permits supply chains of customer’s and supplier’s to be linked
- Requires collaboration and the IT to support the seamless connection

The Resource-Based View

- The Resource-Based View (RBV) looks at gaining competitive advantage through the use of information resources
- Two subsets of information resources have been identified:
  – Those that enable firms to attain competitive advantage (rare and valuable resources that are not common place)
  – Those that enable firms to sustain competitive advantage (resources must be difficult to transfer or relatively immobile)

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Strategic Alliances

- An interorganizational relationship that affords one or more companies in the relationship a strategic advantage
  - Delta recently formed an alliance with e-Travel Inc to promote Delta's inline reservation system
  - This helps reduce Delta's agency fees while offering e-Travel new corporate leads
  - Others: lastminute.com, Wal-Mart, …
- Also, Supply Chain Management (SCM) is another type of IT-facilitated strategic alliance

Types of Strategic Alliances

- Supply Chain Management: improves the way a company finds raw components that it needs to make a product or service
  - Technology, especially Web-based, allows the supply chain of a company's customers and suppliers to be linked through a single network that optimizes costs and opportunities for all companies in the supply chain
  - Wal-Mart and Proctor & Gamble (P&G)
- Co-opetition: a new strategy whereby companies cooperate and compete at the same time with companies in their value net

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Potential Risks

- There are many potential risks that a firm faces when attempting to use IT to outpace their competition
  - ***Awakening a sleeping giant*** – a large competitor with deeper pockets may be nudged into implementing IS with even better features
  - ***Demonstrating bad timing*** – sometimes customers are not ready to use the technology designed to gain strategic advantage
  - ***Implementing IS poorly*** – information systems that fail because they are poorly implemented
  - ***Failing to deliver what users what*** – systems that don't meet the firm's target market likely to fail
  - ***Web-based alternative removes advantages*** – consider risk of losing any advantage obtained by an information resource that later becomes available as a service on the web
  - ***Running afoul of the law*** – Using IS strategically may promote litigation

Summary

- Information is increasingly a core component of the product or service offered by the firm
- IT strategy is business strategy – they cannot be created without each other
- Some company’s main product is information (financial services)
- FedEx can not function without IT even though they are primarily a package delivering company

Summary

- Information resources: data, technology, people, processes. Can be assets or capabilities (technical/IT management/relationship skills)
- The five competitive forces model, value chain model, RBV
- IT can facilitate strategic alliances (e.g., SCM)
- Reading: Co-opetition
- Numerous risks are associated with using IS to gain strategic advantages