Information Technology as a Competitive Advantage

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Department of Management
Does IT Matters?

Modern global organizations know that skillful management and use of their investments in information technology give them a competitive advantage

Craig R Barrett
Intel Corporation
Strategic IT

- Technology is no longer an afterthought in forming business strategy but the actual cause and driver
- It is perceived as a platform to re-engineer organizational development and growth
- Case: Dell – How to shop online?
Dell – ICT Industry

Small Size, Big Punch
Introducing the conveniently compact, high performance XPS 210
General Motors – Car Industry
Intel – ICT Industry
ICT – Travel Industry
Competitive Strategy Concepts

- The strategic role of IT involves...
  - Develop products, services and capabilities to provide advantages over competitors

- Strategic information systems (SIS) supports and shapes the competitive position and strategies of a business enterprise
  - Ideas
  - Human capacities
  - Strategic vision
  - Products and services

- What are the competitive forces and competitive strategies?
Competitive Forces v Competitive Strategies

**Competitive Forces**

- They shape the structure of competition in the industry
  - Rivalry of competitors
  - Threats of new entrants
  - Threats of substitutes
  - Bargaining power of customers
  - Bargaining power of suppliers

**Competitive Strategies**

- They are developed to counter and meet competitive forces
  - Cost leadership
  - Differentiation
  - Innovation
  - Growth
  - Alliance
## Competitive Forces and Strategies

### Competitive Forces

<table>
<thead>
<tr>
<th></th>
<th>Bargaining Power of Suppliers</th>
<th>Bargaining Power of Consumers</th>
<th>Rivalry of Competitor</th>
<th>Threat of New Entrant</th>
<th>Threat of Substitute</th>
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<tbody>
<tr>
<td>Differentiation</td>
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<td>Cost</td>
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<td>Innovation</td>
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<td>Growth</td>
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<td>Alliance</td>
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<tr>
<td>Other Strategies</td>
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</tbody>
</table>
Competitive Strategies

☐ Cost Leadership Strategy
  - Low-cost producer of products and services
  - Reducing the cost for both suppliers and consumers
  - Attempting to increase the cost of competitors

☐ Differentiation Strategy
  - Developing ways to differentiate a firm’s products and services from its competitors
  - Attempting to reduce the competitive differentiation of competitors
  - Establishing and focusing on niches of products and services

☐ Innovation Strategy
  - Developing new different and innovative ways to do business
  - Developing new products and services
  - Introducing changes to the business processes
Competitive Strategies

- **Growth Strategy**
  - Expanding the firm’s capacity to produce products and services
  - Expanding in local, regional and international markets
  - Diversifying into additional and new products and services

- **Alliance Strategy**
  - Establishing new business partnerships and alliances with various types of counterparts; customers, suppliers, consultants and competitors
  - Engaging in mergers, acquisitions, joint ventures, etc.

- **Other competitive strategies include...**
  - Locking in customers or suppliers
  - Raising barriers to entry
  - Leveraging investment in information technology
Value Chain and Strategic IS

- The value-chain concept was developed by Michael Porter.
- It views the organization as a series, chain or network of basic activities that adds values to its products and services and respectively add a margin of value to the firm.
- Value chain have primary and support processes that are vital for the proper flow of activities within the firm.
  - **Primary** activities relate to production and distribution of products and services.
  - **Support** activities related to the organization infrastructure as well as employees and management.
Firm Value Chain

Support Processes
- Administrative Coordination and Support Services
  - SIS – Collaborative Work Systems
- Human Resources Management
  - SIS – Employee Skills Database Systems
- Technology Development
  - SIS – Computer-Aided Engineering and Design
- Procurement of Resources
  - SIS – Electronic Data Interchange with Suppliers

Primary Business Processes
- Inbound Logistics
  - SIS
  - Automated JIT Warehousing
- Operations
  - SIS
  - Computer Aided Flexible Manufacturing
- Outbound Logistics
  - SIS
  - Online Point Of Sale And order Processing
- Marketing And Sales
  - SIS
  - Interactive Targeting Marketing
- Customer Service
  - SIS
  - Help Desk Expert Systems
Strategic Uses of Information Technology

**Strategy**
- Raise barriers to entry
- Build a strategic IT platform
- Build a strategic information base

**IT Role**
- Increase amount of investment or complexity of IT needed to compete
- Leverage investment in IS resources from operational uses to strategic uses
- Use IT to provide information to support firm’s competitive strategy

**Outcome**
- Increase market share
- Create new business opportunities
- Enhance organizational collaboration
IT Taxonomy

- Humanware
- Hardware
- Software
  - Enterprise resource planning (ERP)
  - Customer relationship management (CRM)
  - Supply chain management (SCM)
- Netware
Building Customer-Focused Business

- The driving force behind world economic growth has changed from manufacturing volume to improving customer value
  - Moving from product-base to service-base (from tangible to intangible)
- As a result, the key success factor for many firms is maximizing customer value
- It is vital to emphasize for customer value that quality rather than prices has become the primary determinant in a customer’s perception of value
  - Build a community of customers, employees, and partners
  - Let customers place orders directly
  - Let customers check order history and delivery status
  - Give all employees a complete view of customers
### iPrint Order Receipt

**Order Receipt**

For future use, your order has been saved under Reference I.D.# 100-8513913

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<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Description</th>
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Strategic Positioning Matrix
Internet Technology

<table>
<thead>
<tr>
<th>External Drivers</th>
<th>Internal Drivers</th>
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<tbody>
<tr>
<td>Global Market Penetration</td>
<td>Cost and Efficiency Improvements</td>
</tr>
<tr>
<td>eCommerce websites</td>
<td>eMail, Chat Systems, WWW, discussion groups</td>
</tr>
<tr>
<td>Value-added IT Services</td>
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</tr>
<tr>
<td>Customer Relationship Management</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategy Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product and Services Transformation</td>
</tr>
<tr>
<td>eBusiness, Intranets and Extranets</td>
</tr>
<tr>
<td>Performance Improvements in Business Effectiveness</td>
</tr>
<tr>
<td>Intranets and Extranets</td>
</tr>
<tr>
<td>High</td>
</tr>
</tbody>
</table>
Internet and eBusiness-eCommerce

- Customers
- Websites
- Intranets
- Extranets
- The Internet

- New-Business Product Potential
- Technology Developments
- Internet Capabilities
- Product Distribution
- Sales
- Marketing
- Information Management
- Corporate Communications
- Human Resources
- Systems
- Research
- Product Development
- Customer Support
- Core Business Function
- Competitive Environment
- Price Competition
- Competitive

- Constraints
- Cost Containment
- Vendors Supplier
- Global Markets
- Business Partners
- Competitors
Reengineering Business Processes

- Reengineering reflects the need to rethinking and radically redesigning business processes to achieve dramatic improvements in:
  - Cost
  - Quality
  - Speed
  - Service

- Using IT for organizational restructuring
  - Job re-design
  - Smart-sizing (right-sizing)
Becoming an Agile Company

- Moving from a competitive environment in which mass-market products and services were characterized by being
  - Standard
  - long-lived
  - Information poor
  - Exchanged in one-time transaction

- ...to an environment that competes globally with niche market of products and services that are...
  - Individualized
  - Short-lived
  - Information rich
  - Exchanged on an ongoing basis with customers

- Leverage the impact of people and information
Creating a Virtual Organization (VO)

- VO is helping executives and staff globally to collaborate without *face2face* interaction
- A virtual organization uses information technology to link people, assets and ideas
  - Adaptable
  - Borderless
  - Technology-based
  - Trust-based
Model for a Virtual Organization

- Alliance with a major supplier
- Alliance with small suppliers
- Alliance with subcontractors
- Alliance with a competitor who provides services that are complementary

- Intranets
  - Cross-functional teams
  - Engineering teams

- Extranets

- Boundary of firm
  - Customer response and order-fulfillment teams
  - Alliance with a major customer
  - Manufacturing teams
Building a Knowledge Creating Company

- Knowledge management systems (KMS) help manage the knowledge created within the firm using advanced information and communication technology.
- KMS leads to the formulation of processes, formulas, best practices, and help facilitate organizational learning and multiply knowledge creation.
- Knowledge is becoming the primary factor for organizational growth and development with a focus on innovation – also called learning organizations.
  - Explicit knowledge
  - Tacit knowledge (implicit)
The Knowledge Pyramid

- Enterprise Intelligence
- Information Creation, Sharing and Management
- Document Management
Strategies of Virtual Organizations

- Share infrastructure and risk with **alliance** partners
- Link complementary **core competencies**
- Reduce concept-to-cash time through **sharing**
- Increase facilities and **market coverage**
- Gain access to new markets and share market or **customer royalty**
- Migrate from selling products to selling **solutions**