

# TIM 50, LECTURE # 2 (6/29/17)

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## Agenda

1. Quick review of L1
2. Types of Business Info Systems
3. Enterprise Application Software
4. Technologies for Collaboration & Teamwork
5. Achieving competitive advantage with IS/IT
  - Porter's comp. strategy framework (~1980)
  - Porter's business value chain (~1990)
  - Core competencies, Quality
6. Evolution of IT
7. HW # 1 (due Thursday, next week)
8. Project: Teams & Project proposal  
(Project proposal review meeting on Wed., next week)

# Types of Business Information Systems :

Levels of management	Type of Information System	Examples
Operational Management (day-to-day activities); short term (days - weeks)	Transactional Processing System (TPS)	1) Payroll system 2) UPS: IS for routing, scheduling & making deliveries, tracking, ... ...
Middle Management (professionals in engineering, science, business, ...); mid-term (months)	① Management Information System (MIS)  ② Decision-Support Systems (DSS) (Analytics; models)	→ creates reports based on data from the TPS; example: monthly sales for a product, ...  → helps managers to make non-routine decisions: example: If we need to double our sales volume, how should we organize our production facilities
Senior Management: long-term (several months - years)	Executive Support Systems (ESS)	monitor vital functions of the enterprise using a digital dashboard: <ul style="list-style-type: none"> <li>- Cash Flows</li> <li>- Working capital</li> <li>- New Product Development</li> <li>- .....</li> </ul>

### ③ Customer Relationship Management (CRM)

- manages relationships with the customer (including selling products); customer also provides feedback on satisfaction with the product, related to product use, product quality, .....

### ④ Product Life-cycle Management (PLM)

- software that manages all aspects of product design, development, manufacturing, ...

### ⑤ Knowledge Management System (KMS)

- collect and organize the knowledge used to create, produce, and deliver products to customers

### Enterprise Application Software Vendors:

- SAP (leader); Apple uses SAP
- Oracle → Plantronics uses Oracle
- IBM
- Microsoft
- .....

## 4. Collaboration & Teamwork

IT enables & enhances collaboration & teamwork within the company, across companies (as in a supply chain), & across the globe:

- e-mail
- instant messaging
- Wikis
- cell-phones
- video-conferencing
- ....

"flattening  
the  
world"

## 5. Achieving competitive advantage with IS/IT

### 5A. Competitive Strategy:

Problem: Create a Porter's Competitive Forces model for Industry/Market

#### Terminology:

**Industry:** competitors, new entrants, substitutes, suppliers for some technology, product, or service

examples: health-care industry, consumer electronics industry, automobile industry

**Market:** buyers or customers

Process for performing a Porter competitive analysis

of Industry/Market (planning the treatment of the problem)

Example: Personal Computer <sup>industry/</sup>market in the 1980s (just after inception)

1. Create a map of the industry/market landscape in which the companies of interest, known as the competitors, are embedded
2. Perform a five forces analysis of the industry/market landscape
3. Determine the attractiveness of the industry based on the strength of the five forces
4. Decide on each company's position or competitive strategy in order to successfully compete in the I/M landscape.

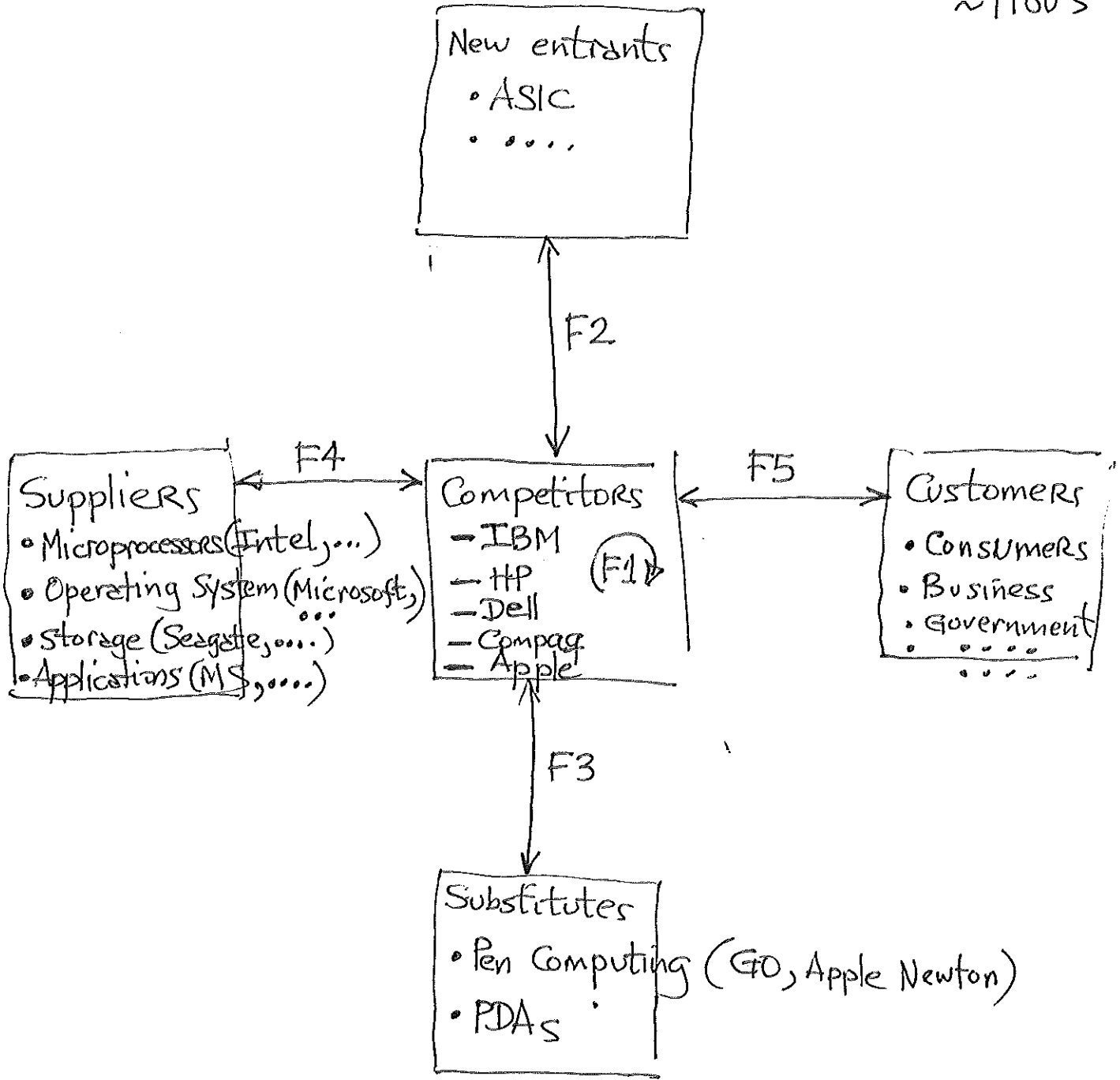
[For our purposes, in this course, we will focus on steps 1, 2, & 4]

# Executing the plan or process

Step 1: Industry/Market (I/M) landscape

Example:

PC industry  
≈ 1980s



## Step 2: Five Force Analysis (Example: PC I/M)

Force 1: Rivalry between competitors (to increase market share, profitability, ...) : medium

Force 2: Threat of new entrants;  
(F2) (new entrants face "barriers to entry" such as capital expenditure, brand-name of existing competitors, ...) : low

Force 3: Threat of substitutes;  
(F3) (Substitutes face "barriers to entry" similar to the new entrants) : low

Force 4: Supplier Power : medium

Force 5: Buyer Power : medium

For each force in a given industry, one can determine how strong the force is using a simple scale: low, medium, or high

(Step 3: Determine the attractiveness of the industry based on the cumulative strength of the five forces.)

Step 4: Competitive position or strategy

(a) Segment the industry into two axes

- product axis: two extremes: (i) unique product as perceived by the customer

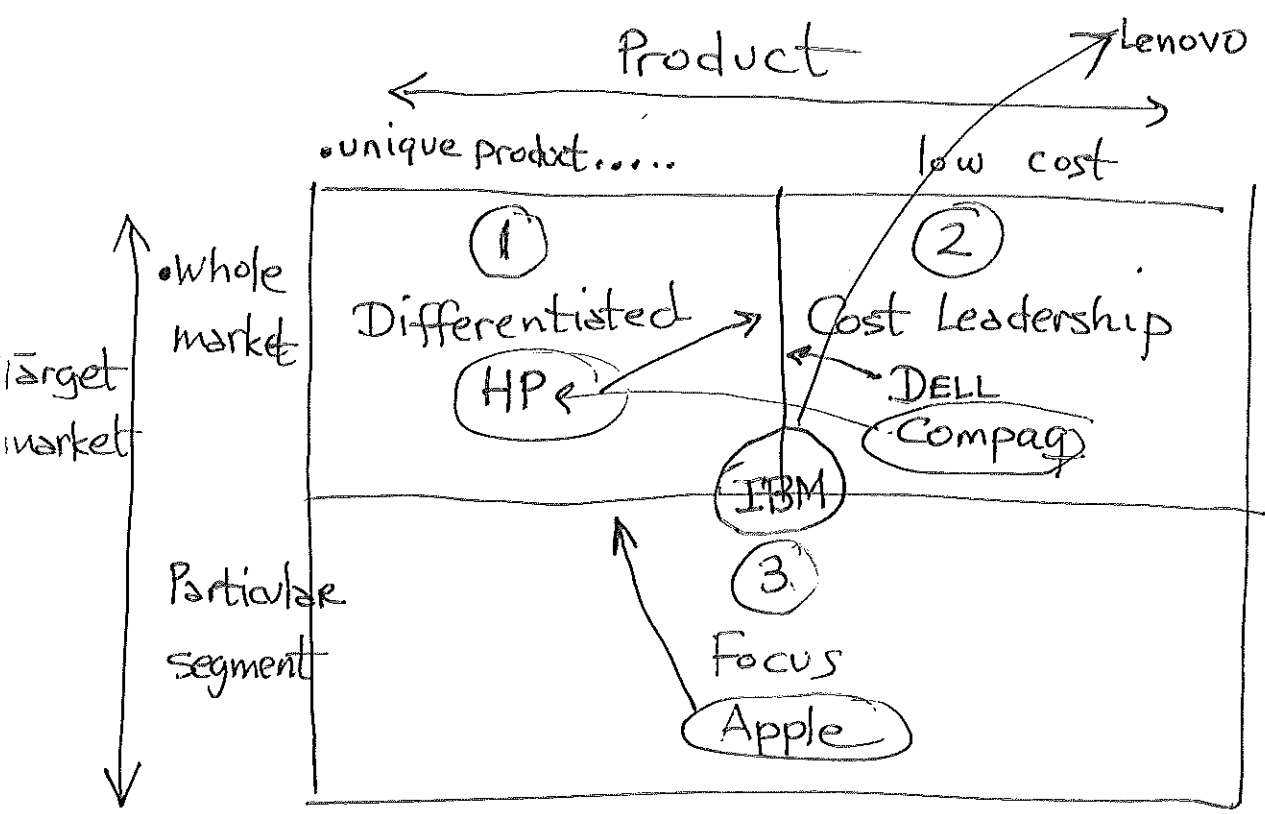
(ii) low cost

- target market: two extremes: (i) target market is the whole market ("everyone")

(ii) particular segment (of the whole market)



Example: PC industry  
≈ 1980s



Important: According to Porter,  
for a company to be successful (profitable,  
market share,....), it must adopt one  
(and only one) of three possible strategies

- Differentiated strategy (1)
- Cost leadership (2)
- Focus (3)
- ~~stuck-in-the-middle~~

Note: competitive strategy is dynamic & evolves

## 5B. Business Value Chain

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Observation: Porter competitive strategy model is a "high-level" framework, & suggests generic ways in which IT can help.

It does not specify actions or provide a framework for using IT for competitive advantage.

Porter created the concept of a Business Value Chain, which focuses on activities where competitive strategy can be applied, and, therefore, where I. Systems can have positive impact.

Prob: How does one create a business value chain?

Process:

1. What activities add value to the firm (company)?

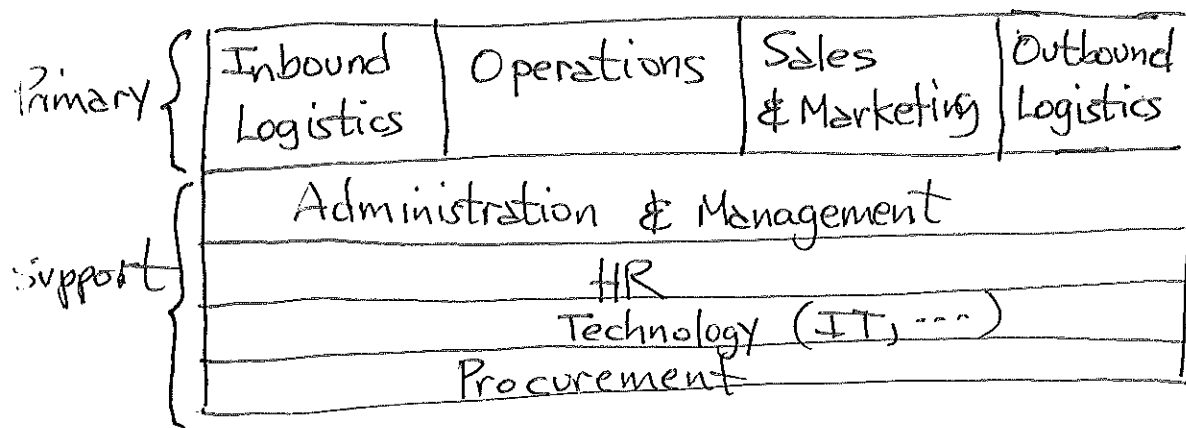
Primary activities  
related to products  
& services

- production
- distribution
- product design

Support activities  
enable the delivery  
of primary activities

- organizational infrastructure
- Human Resources
- Procurement

# Porter's Business Value Chain (BVC)



2. At each stage of the BVC ask 2 questions

(a) how can IS be used to increase operational efficiency?

(b) how can IS be used to improve supplier & customer intimacy

See examples in Chapter "Achieving competitive advantage with Info Systems" in EMIS by L<sup>2</sup>

You need to use the SPS in all your work



HW, Exams, Project deliverables

⇒ Developing the SPS habit!

(SPS stands for: structured problem-solving; see handout on the class web-site)