Hot Issues of Information Management
Telecommunications, the Internet, and Wireless Technology:
Google, Apple, and Microsoft (Chap. 7)

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Wed 8,9 (15:10-17:00) B702

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2017-12-13
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課程大綱 (Syllabus)

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13  2017/12/13  Telecommunications, the Internet, and Wireless Technology: Google, Apple, and Microsoft (Chap. 7) (pp.318-320)
14  2017/12/20  Enterprise Applications: Summit and SAP (Chap. 9) (pp.396-398)
15  2017/12/27  E-commerce: Zagat (Chap. 10) (pp.443-445)
16  2018/01/03  Final Report I (期末報告 I)
17  2018/01/10  Final Report II (期末報告 II)
18  2018/01/17  Final Exam Week (期末考試週)
Management Information Systems: Managing the Digital Firm

1. Organization, Management, and the Networked Enterprise

2. Information Technology Infrastructure

3. Key System Applications for the Digital Age

4. Building and Managing Systems

Chap. 7
Telecommunications, the Internet, and Wireless Technology:
Google, Apple, and Microsoft
Case Study:

Google, Apple, and Microsoft (Chap. 7) (pp. 318-320)

Apple, Google, and Microsoft Battle for Your Internet Experience

1. Define and compare the business models and areas of strength of Apple, Google, and Microsoft.

2. Why is mobile computing so important to these three firms? Evaluate the mobile platform offerings of each firm.

3. What is the significance of applications and app stores, and closed vs. open app standards to the success or failure of mobile computing?

4. Which company and business model do you believe will prevail in this epic struggle? Explain your answer.

5. What difference would it make to a business or to an individual consumer if Apple, Google, or Microsoft dominated the Internet experience? Explain your answer.

Overview of Fundamental MIS Concepts

Business Model

1. Customer Segments
2. Value Proposition
3. Channels
4. Customer Relationships
5. Revenue Streams
6. Key Resources
7. Key Activities
8. Key Partners
9. Cost Structure

Business Model

1. Customer Segments
2. Value Proposition
3. Channels
4. Customer Relationships
5. Revenue Streams
6. Key Resources
7. Key Activities
8. Key Partners
9. Cost Structure
10. Who?
11. Why?
12. How?
13. What?

Components of a Simple Computer Network

Corporate Network Infrastructure

Packet-Switched Networks and Packet Communications
The Transmission Control Protocol/Internet Protocol (TCP/IP) Reference Model

Functions of the Modem

The Domain Name System

Internet Network Architecture

Client/Server Computing on the Internet

- Web browser
- Other client software
- Web (HTTP) server
- Simple Mail Transfer Protocol (SMTP)
- Domain Name Serving (DNS) utility
- File Transfer Protocol (FTP)
- Network News Transfer Protocol (NNTP)

How Voice over IP Works

A Virtual Private Network Using the Internet
The Global Internet

• Search engines
  – Started as simpler programs using keyword indexes
  – Google improved indexing and created page ranking system

• Mobile search: 20% of all searches in 2012

• Search engine marketing
  – Major source of Internet advertising revenue

• Search engine optimization (SEO)
  – Adjusting Web site and traffic to improve rankings in search engine results

The Global Internet

• Social search
  – Google +1, Facebook Like

• Semantic search
  – Anticipating what users are looking for rather than simply returning millions of links

• Intelligent agent shopping bots
  – Use intelligent agent software for searching Internet for shopping information

Top U.S. Web Search Engines

- Google: 78%
- Yahoo: 7%
- Baidu: 7%
- Bing: 5%
- Others: 3%

How Google Works

1. User enters query
2. Google’s Web servers receive the request. Google uses an estimated 450,000 PCs linked together and connected to the Internet to handle incoming requests and produce the results.
3. Request is sent to Google’s index servers that describe which pages contain the keywords matching the query and where those pages are stored on the document servers.
4. Using the PageRank software, the system measures the "importance" or popularity of each page by solving an equation with more than 500 million variables and two billion terms. These are likely the "best" pages for the query.
5. Small text summaries are prepared for each Web page.
6. Results delivered to user, 10 to a page.

Web 2.0

- Second-generation services
- Enabling collaboration, sharing information, and creating new services online
- Features
  - Interactivity
  - Real-time user control
  - Social participation (sharing)
  - User-generated content

Web 2.0 services and tools

• **Blogs**: chronological, informal Web sites created by individuals
  – RSS (Really Simple Syndication): syndicates Web content so aggregator software can pull content for use in another setting or viewing later
  – Blogosphere
  – Microblogging

• **Wikis**: collaborative Web sites where visitors can add, delete, or modify content on the site

• **Social networking sites**: enable users to build communities of friends and share information

Web 3.0: The “Semantic Web”

- A collaborative effort led by W3C to add layer of meaning to the existing Web
- Goal is to reduce human effort in searching for and processing information
- Making Web more “intelligent” and intuitive
- Increased communication and synchronization with computing devices, communities
- “Web of things”
- Increased cloud computing, mobile computing

A Bluetooth Network (PAN)
An 802.11 Wireless LAN

How RFID Works

A microchip holds data including an identification number. The rest of the tag is an antenna that transmits data to a reader.

Has an antenna that constantly transmits. When it senses a tag, it wakes it up, interrogates it, and decodes the data. Then it transmits the data to a host system over wired or wireless connections.

Processes the data from the tag that have been transmitted by the reader.
A Wireless Sensor Network

Case Study: Summit and SAP (Chap. 9) (pp. 396-398)

Summit Electric Lights Up with a New ERP System

1. Which business processes are the most important at Summit Electric Supply? Why?

2. What problems did Summit have with its old systems? What was the business impact of those problems?

3. How did Summit’s ERP system improve operational efficiency and decision making? Give several examples.

4. Describe two ways in which Summit’s customers benefit from the new ERP system.

5. Diagram Summit’s old and new process for handling chargebacks.

資料管理專題
(Hot Issues of Information Management)

1. 請同學於資訊管理專題個案討論前
   應詳細研讀個案，並思考個案研究問題。

2. 請同學於上課前複習相關資料管理相關理論，
   以作為個案分析及擬定管理對策的依據。

3. 請同學於上課前
   先繳交資訊管理專題個案研究問題書面報告。

4. 上課時間地點：
   週三 8,9 (15:10-17:00) B702
References


– Kenneth C. Laudon & Jane P. Laudon原著，游張松 主編，陳文生 翻譯 (2014)，資訊管理系統，第13版，滄海