Case Study for Information Management

Telecommunications, the Internet, and Wireless Technology: Google, Apple, and Microsoft (Chap. 7)

1031CSIM4C07
TLMXB4C (M1824)
Tue 2, 3, 4 (9:10-12:00) B425

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Dept. of Information Management, Tamkang University

http://mail.tku.edu.tw/myday/
2014-10-28
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## 課程大綱 (Syllabus)

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<td>104/01/13</td>
<td>期末考試週</td>
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Chap. 7
Telecommunications, the Internet, and Wireless Technology:
Google, Apple, and Microsoft
Case Study: Google, Apple, and Microsoft (Chap. 7)

Google, Apple, and Microsoft struggle 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 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 you as a manager or individual consumer if Apple, Google, or Microsoft dominated the Internet experience? Explain your answer.

Overview of Fundamental MIS Concepts

Understanding **Business Model**

- **Business Model**
- **Revenue Model**
- **Business Strategy**
- **Business Strategy and Information System Alignment**
Business Model
Value
Definition of Business Model

A business model describes the rationale of how an organization creates, delivers, and captures value.

E-commerce

Business Models

1. Portal
2. E-tailer
3. Content Provider
4. Transaction Broker
5. Market Creator
6. Service Provider
7. Community Provider

E-commerce

Revenue Models

1. Advertising
2. Sales
3. Subscription
4. Free/Freemium
5. Transaction Fee
6. Affiliate

Types of E-commerce

1. Business-to-consumer (B2C)
2. Business-to-business (B2B)
3. Consumer-to-consumer (C2C)
4. Mobile commerce (m-commerce)

Definition of Business Model

A business model describes the rationale of how an organization creates, delivers, and captures value.

Business Model Canvas

Key Activities → Value Proposition → Customer Relationships
Key Partners → Key Resources → Key Activities

Value Proposition → Customer Segments
Channels → Customer Relationships

Cost Structure → Revenue Streams

[https://www.youtube.com/watch?v=QoAOzMTLP5s](https://www.youtube.com/watch?v=QoAOzMTLP5s)
Business Model Canvas


https://www.youtube.com/watch?v=QoAOzMTLP5s
Business Model Canvas Explained

Source: [http://www.youtube.com/watch?v=QoAOzMTLP5s](http://www.youtube.com/watch?v=QoAOzMTLP5s)
The 9 Building Blocks of Business Model

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<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Proposition</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
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<td>Key Resources</td>
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<td>Cost Structure</td>
<td>Revenue Streams</td>
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The 9 Building Blocks of Business Model

The 9 Building Blocks of Business Model

1. Customer Segments
   – An organization serves one or several Customer Segments.

2. Value Propositions
   – It seeks to solve customer problems and satisfy customer needs with value propositions.

3. Channels
   – Value propositions are delivered to customers through communication, distribution, and sales Channels.

4. Customer Relationships
   – Customer relationships are established and maintained with each Customer Segment.

5. Revenue Streams
   – Revenue streams result from value propositions successfully offered to customers.

6. Key Resources
   – Key resources are the assets required to offer and deliver the previously described elements...

7. Key Activities
   – ...by performing a number of Key Activities.

8. Key Partnerships
   – Some activities are outsourced and some resources are acquired outside the enterprise.

9. Cost Structure
   – The business model elements result in the cost structure.

Business Model

Key Partners

Key Activities

Key Resources

Value Proposition

Customer Segments

Customer Relationships

Channels

Revenue Streams

Cost Structure

1

2

3

4

5

6

7

8

9

Business Model Generation

Business Model Generation

**The Canvas of Business Model Generation**

**Production and Logistics**
Anything beyond content creation is outsourced to readily available service providers.

**Differentiation**
An entirely different format, business model, and story for the book makes it stand out in a crowded market.

**Community**
The book is co-created with practitioners from around the world who feel ownership thanks to attribution as contributing co-authors.

**Buyers**
Paying customers are not only readers, but co-creators and companies that want customized books for their employees and clients.

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**THE MOVEMENT (DESIGN)**
Ning Platform
Amazon.com
3rd Party Logistics Company
Publishers

**CONTENT PRODUCTION**
Hub Management
Guerrilla Marketing and Word-of-Mouth
Logistics and Shipping

**Visual, Practical, and Beautiful Handbook for Business Model Innovators**

**Co-Creation of a Potential Bestseller**

**Personalized Books for Companies and Their Customers**

**BLOG AND VISIBILITY ON THE WEB**
Business Model Hub Powerful Methodology

**HUB MEMBERS**
Word-of-Mouth
1) BusinessModelGeneration.com
2) Amazon.com
3) Book Stores
Intermediation Through Publishers

**Business Model Event, Amsterdam**

---

**C$**

**Design**
Content Production
Printing
Distribution

**R$**

**Hub Membership Fees**
Advance & Post-Publication Sales
Free Give Away Canvas Section
Fees for Customized Versions
Royalties from Publishers

---

**Reach**
A mix of direct and indirect Channels and a phased approach optimizes reach and margins. The story of the book lends itself well to viral marketing and word-of-mouth promotion.

**Revenues**
The book was financed through advanced sales and fees paid by co-creators. Additional revenues come from customized versions for companies and their clients.

### Facebook – World’s leading Social Networking Site (SNS)

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Relationships</th>
<th>Customer Segments</th>
</tr>
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<tbody>
<tr>
<td><strong>Content Partners</strong> (TV Shows, Movies, Music, News Articles)</td>
<td><strong>Platform Development</strong></td>
<td><strong>Connect with your friends, Discover &amp; Learn, Express yourself</strong></td>
<td><strong>Same-side Network Effects</strong></td>
<td><strong>Internet Users</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Data Center Operations Mgmt</strong></td>
<td><strong>Reach, Relevance, Social Context, Engagement</strong></td>
<td><strong>Cross-side Network Effects</strong></td>
<td><strong>Advertisers and Marketers</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Key Resources</strong></td>
<td><strong>Personalized and Social Experiences, Social Distribution, Payments</strong></td>
<td></td>
<td><strong>Developers</strong></td>
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<tr>
<td></td>
<td><strong>Facebook Platform</strong></td>
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<td><strong>Channels</strong></td>
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<td><strong>Technology Infrastructure</strong></td>
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<td><strong>Website, Mobile Apps</strong></td>
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<td><strong>Facebook Ads, Facebook Pages</strong></td>
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<td><strong>Developer Tools and APIs</strong></td>
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**Cost Structure**
- Data center costs
- Marketing and Sales
- Research and Development
- General and Administrative

**Revenue Streams**
- Free
- Ad Revenues
- Payment Revenues

Twitter Business Model

Key Partners
- Search Vendors
- Device Vendors
- Media companies
- Mobile Operators

Key Activities
- Platform Development

Value Propositions
- Stay connected
- News/Events
- Targeted Marketing
- Twitter Apps

Relationships
- Website, Desktop Apps, Mobile Apps, SMS
- Twitter API

Channels
- Enterprises
- Developers

Customer Segments
- Users

Key Resources
- Twitter.com Platform

Cost Structure
- Employees
- Servers

Revenue Streams
- Licensing Data Streams
- Promoted Accounts
- Promoted Tweets
- Promoted Trends
- Analytics

www.businessmodelgeneration.com

Source: http://bmimatters.com/tag/business-model-canvas-examples/
Google Business Model

Key Partners
- Distribution Partners
- Open Handset Alliance
- OEMs (for Chrome OS devices)

Key Activities
- R&D – Build New Products, Improve Existing products
- Manage Massive IT Infrastructure

Key Resources
- Datacenters
- IPs, Brand

Value Propositions
- Web Search, Gmail, Google+
- Targeted Ads using Adwords (CPC)
- Extend Ad campaigns using Adsense
- Display Advertising Mgmt Services
- OS and Platforms – Android, Chrome OS
- Hosted web-based Google Apps

Relationships
- Automation (where possible)
- Dedicated Sales for large accounts
- Global Sales and Support Teams
- Multi-product Sales force

Customer Segments
- Internet Users
- Advertisers, Ad Agencies
- Google Network Members
- Mobile device owners
- Developers
- Enterprises

Cost Structure
- Traffic Acquisition Costs
- R&D Costs (mainly personnel)
- Data center operations
- S&M, G&A

Revenue Streams
- Ad Revenues – Google websites
- Ad Revenues – Google n/w websites
- Enterprise Product Sales
- Free

LinkedIn – World’s Largest Professional Network

<table>
<thead>
<tr>
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<th>Key Activities</th>
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<th>Customer Segments</th>
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<tr>
<td>Equinix (for data center facilities)</td>
<td>Platform Development</td>
<td>Manage Professional Identity and Build Professional Network</td>
<td>Same-side Network Effects</td>
<td>Internet Users</td>
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<tr>
<td>Content Providers</td>
<td>LinkedIn Platform</td>
<td>Identify and Reach the Right Talent</td>
<td>Cross-side Network Effects</td>
<td>Recruiters</td>
</tr>
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<thead>
<tr>
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<th>Channels</th>
<th>Customer Segments</th>
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<tbody>
<tr>
<td>LinkedIn Platform</td>
<td>LinkedIn Platform</td>
<td>Reach the Target Audience</td>
<td>LinkedIn Website, Mobile Apps</td>
<td>Advertisers and Marketers</td>
</tr>
<tr>
<td>Access to LinkedIn Database Content via APIs and Widgets</td>
<td>LinkedIn Website, Mobile Apps</td>
<td>Field Sales</td>
<td>Developers</td>
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<thead>
<tr>
<th>Cost Structure</th>
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<tr>
<td>Web Hosting costs</td>
<td>Free Offerings and Premium Subscriptions</td>
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<tr>
<td>Marketing and Sales</td>
<td>Hiring Solutions</td>
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<tr>
<td>Product Development</td>
<td>Marketing Solutions</td>
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<tr>
<td>General and Administrative</td>
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Business Model of Banking companies

Key Partners:
- Investments partners
- Technology vendors
- Regulatory Agencies

Key Activities:
- Branch Operations
- Call center operations
- IT Operations

Key Resources:
- Physical and IT Infrastructure
- Loan Assets

Value Propositions:
- Deposit Products (Lower Interest Rates)
- Loan Products (Higher Interest Rates)

Relationships:
- Personal Assistance
- Automation where possible

Channels:
- Bank Branches, ATMs, Call centers, Internet, Mobile Devices

Customer Segments:
- Retail and Corporate Customers (Depositors)
- Retail and Corporate Customers (Borrowers)

Cost Structure:
- Interest Expenses
- Channel Costs

Revenue Streams:
- Interest Income
- Fee Income
# VISA – Leader in Global Payments Industry

## Key Partners
- Technology Alliances
- Commercial Partners

## Key Activities
- Payments Network Management
- Transaction Processing
- Value-added Services

## Key Resources
- Payment Products Platform
- VISA Brand

## Value Propositions
- Payment Product Platforms for card programs and cashless payments
- Convenience, Security, Rewards associated with card payments
- Improved Sales, Customer Convenience

## Relationships
- Channels:
  - Sponsorships (FIFA World cup, Olympics)
  - TV ads, Tradeshows, Conferences

## Customer Segments
- Financial Institutions (Issuers)
- Financial Institutions (Acquirers)
- Card Holders
- Merchants

## Cost Structure
- Personnel
- Network, EDP, & Communications
- Brand Promotion
- Litigations Provision

## Revenue Streams
- Services Revenues
- Data Processing Revenues
- International Revenues

Source: http://bmimatters.com/tag/business-model-canvas-examples/
Customer Value
“Meeting needs profitably”
Value
the sum of the tangible and intangible benefits and costs

Value

Total customer benefit

Total customer cost

Customer perceived value

Customer Value Triad

Quality, Service, and Price (qsp)

Value and Satisfaction

• Marketing
  – identification, creation, communication, delivery, and monitoring of customer value.

• Satisfaction
  – a person’s judgment of a product’s perceived performance in relationship to expectations

Building Customer Value, Satisfaction, and Loyalty

Customer Perceived Value

- Product benefit
- Services benefit
- Personnel benefit
- Image benefit

---

- Total customer benefit

---

- Monetary cost
- Time cost
- Energy cost
- Psychological cost

---

- Total customer cost

---

Customer perceived value

Satisfaction

“a person’s feelings of pleasure or disappointment that result from comparing a product’s perceived performance (or outcome) to expectations”

Loyalty

“a deeply held commitment to rebuy or repatronize a preferred product or service in the future despite situational influences and marketing efforts having the potential to cause switching behavior.”

Customer Perceived Value, Customer Satisfaction, and Loyalty

Customer Perceived Performance

Customer Perceived Value

Customer Satisfaction

Customer Loyalty

Customer Expectations

CEO CIO CFO

CEO
Strategy and Sales (Leading)

CIO
Enterprise Technology Integration

CFO-COO
Finance and Operations (Lagging)

Source: http://www.r3now.com/what-is-the-proper-relationship-for-the-cio-ceo-and-cfo/
Adapted from: http://www.r3now.com/what-is-the-proper-relationship-for-the-cio-ceo-and-cfo/
### CEO CIO CMO

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<th>Vision</th>
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Adapted from: [http://www.argowiki.com/index.php?title=The_Relationship_Between_the_CEO_and_CIO](http://www.argowiki.com/index.php?title=The_Relationship_Between_the_CEO_and_CIO)
Nothing
is
so practical
as a
good theory

COMPONENTS OF A SIMPLE COMPUTER NETWORK

CORPORATE NETWORK INFRASTRUCTURE
PACKED-SWITCHED NETWORKS
AND PACKET COMMUNICATIONS

THE TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL (TCP/IP) REFERENCE MODEL

FUNCTIONS OF THE MODEM

- Telephone line
- Cable system
- Wireless media
- Analog device

NETWORK TOPOLOGIES

- Star topology
- Ring topology
- Bus topology

BP’S SATELLITE TRANSMISSION SYSTEM

THE DOMAIN NAME SYSTEM

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

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

TOP U.S. WEB SEARCH ENGINES

- Google 72%
- Yahoo 14%
- Bing 10%
- Ask 2%
- Others 2%

Web 2.0

• Four defining features
  1. Interactivity
  2. Real-time user control
  3. Social participation
  4. User-generated content

• Technologies and services behind these features
  – Cloud computing
  – Blogs/RSS
  – Mashups & widgets
  – Wikis
  – Social networks

Web 3.0: The Future Web

• Web 3.0 – the Semantic Web
  – Effort of W3C to add meaning to existing Web
  – Make searching more relevant to user

• Other visions
  – More “intelligent” computing
  – 3D Web
  – Pervasive Web
  – Increase in cloud computing, SaaS
  – Ubiquitous connectivity between mobile and other access devices
  – Make Web a more seamless experience

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

You’re on Facebook? Watch out!

1. What are the key security issues of the Facebook?
2. Why is social-media malware hurting small business?
3. How to manage your Facebook security and privacy?
4. What are the components of an organizational framework for security and control?
5. Security isn’t simply a technology issue, it’s a business issue. Discuss.

資訊管理個案
(Case Study for Information Management)

1. 請同學於資訊管理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訊管理相關理論，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個案研究問題書面報告。
References


– 周宣光 譯 (2011)，資訊管理系統—管理數位化公司，第12版，東華書局