Case Study for Information Management

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

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Thu 8, 9, 10 (15:10-18:00) B608

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Assistant Professor
Dept. of Information Management, Tamkang University
http://mail.tku.edu.tw/myday/
2014-10-31
<table>
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<th>內容 (Subject/Topics)</th>
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<td>Introduction to Case Study for Information Management</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

Management

Organization

Technology

Business Challenges

Information System

Business Solutions

Understanding **Business Model**

- **Business Model**
- **Revenue Model**
- **Business Strategy**
- **Business Strategy and Information System Alignment**
Business Model
Value
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<tbody>
<tr>
<td>Customer Segments</td>
<td>Value Proposition</td>
<td>Channels</td>
<td>Customer Relationships</td>
<td>Revenue Streams</td>
<td>Key Resources</td>
<td>Key Activities</td>
<td>Key Partners</td>
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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

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

Source: http://www.youtube.com/watch?v=QoAOzMTP5s
# 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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<th>Key Resources</th>
<th>Channels</th>
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<table>
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<tr>
<th>Cost Structure</th>
<th>Revenue Streams</th>
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<td>9</td>
<td>5</td>
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</table>

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.

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<td>Key Resources</td>
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<tr>
<td>Cost Structure</td>
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<td>Revenue Streams</td>
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Business Model Generation

Business Model Generation

| LEFT CANVAS efficiency | | | | | | RIGHT CANVAS value |
|------------------------|----------------|----------------|----------------|----------------|----------------|
| KP                     | KA             | VP             | CR             | CS             |
|                        | KR             |                | CH             |                |
| C$                     |                | R$             |                |                |

### 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>
</thead>
<tbody>
<tr>
<td>Content Partners (TV Shows, Movies, Music, News Articles)</td>
<td><strong>Platform Development</strong></td>
<td>Connect with your friends, Discover &amp; Learn, Express yourself</td>
<td>Same-side Network Effects</td>
<td>Internet Users</td>
</tr>
<tr>
<td></td>
<td><strong>Data Center Operations Mgmt</strong></td>
<td></td>
<td>Cross-side Network Effects</td>
<td>Advertisers and Marketers</td>
</tr>
<tr>
<td></td>
<td><strong>Facebook Platform</strong></td>
<td>Reach, Relevance, Social Context, Engagement</td>
<td></td>
<td>Developers</td>
</tr>
<tr>
<td></td>
<td><strong>Technology Infrastructure</strong></td>
<td>Personalized and Social Experiences, Social Distribution, Payments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Resources</th>
<th>Channels</th>
<th>Revenue Streams</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facebook Platform</strong></td>
<td>Website, Mobile Apps</td>
<td><strong>Free</strong></td>
</tr>
<tr>
<td><strong>Technology Infrastructure</strong></td>
<td>Facebook Ads, Facebook Pages</td>
<td><strong>Ad Revenues</strong></td>
</tr>
<tr>
<td></td>
<td>Developer Tools and APIs</td>
<td><strong>Payment Revenues</strong></td>
</tr>
</tbody>
</table>


www.businessmodelgeneration.com
### Twitter Business Model

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search Vendors</td>
<td>Platform Development</td>
<td>Stay connected</td>
<td>Channels</td>
<td>Users</td>
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<tr>
<td>Device Vendors</td>
<td></td>
<td>News/Events</td>
<td>Website, Desktop Apps, Mobile Apps, SMS</td>
<td>Enterprises</td>
</tr>
<tr>
<td>Media companies</td>
<td></td>
<td>Targeted Marketing</td>
<td>Twitter API</td>
<td>Developers</td>
</tr>
<tr>
<td>Mobile Operators</td>
<td>Twitter.com Platform</td>
<td>Twitter Apps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Key Resources
- Twitter.com Platform

### Key Activities
- Platform Development

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

### Channels
- Website, Desktop Apps, Mobile Apps, SMS
- Twitter API

### Cost Structure
- Employees
- Servers

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

# Google Business Model

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Partners</td>
<td>R&amp;D – Build New Products, Improve Existing products</td>
<td>Web Search, Gmail, Google+</td>
<td>Automation (where possible)</td>
<td>Internet Users</td>
</tr>
<tr>
<td>Open Handset Alliance</td>
<td>Manage Massive IT Infrastructure</td>
<td>Targeted Ads using Adwords (CPC)</td>
<td>Dedicated Sales for large accounts</td>
<td>Advertisers, Ad Agencies</td>
</tr>
<tr>
<td>OEMs (for Chrome OS devices)</td>
<td>Key Resources</td>
<td>Extend Ad campaigns using Adsense</td>
<td></td>
<td>Google Network Members</td>
</tr>
<tr>
<td></td>
<td>Datacenters</td>
<td>Display Advertising Mgmt Services</td>
<td>Channels</td>
<td>Mobile device owners</td>
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<tr>
<td></td>
<td>IPs, Brand</td>
<td>OS and Platforms – Android, Chrome OS</td>
<td></td>
<td>Developers</td>
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<tr>
<td></td>
<td></td>
<td>Hosted web-based Google Apps</td>
<td></td>
<td>Enterprises</td>
</tr>
</tbody>
</table>

## 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>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

### Key Resources

- Key Activities: Platform Development
- Value Propositions: Manage Professional Identity and Build Professional Network
- Relationships: Same-side Network Effects

### Key Resources

- Key Activities: LinkedIn Platform
- Value Propositions: Identify and Reach the Right Talent, Reach the Target Audience, Access to LinkedIn Database Content via APIs and Widgets
- Relationships: Same-side Network Effects, Cross-side Network Effects

### Key Resources

- Channels: LinkedIn Website, Mobile Apps, Field Sales
- Customer Segments: Internet Users, Recruiters, Advertisers and Marketers, Developers

### Cost Structure

- Web Hosting costs
- Marketing and Sales
- Product Development

### Revenue Streams

- Free Offerings and Premium Subscriptions
- Hiring Solutions
- Marketing Solutions

## Business Model of Banking companies

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Relationships</th>
<th>Customer Segments</th>
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<tr>
<td>Investments partners</td>
<td>Branch Operations</td>
<td>Deposit Products (Lower Interest Rates)</td>
<td>Personal Assistance</td>
<td>Retail and Corporate Customers (Depositors)</td>
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<tr>
<td>Technology vendors</td>
<td>Call center operations</td>
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<td>Automation where possible</td>
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<tr>
<td>Regulatory Agencies</td>
<td>IT Operations</td>
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</table>

### 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

### 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

Customer Value
Marketing

“Meeting needs profitably”

Value

the sum of the tangible and intangible benefits and costs

Value

Customer perceived value

Total customer benefit

Total customer cost

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

CEO CIO CFO

CEO
Strategy and Sales (Leading)

CIO
Enterprise Technology Integration

CFO-COO
Finance and Operations (Lagging)

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

<table>
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<th>Strategy</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

- Server
- NIC
- Switch
- Router
- The Internet and Other Networks

PACKED-SWITCHED NETWORKS AND PACKET COMMUNICATIONS

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

FUNCTIONS OF THE MODEM

NETWORK TOPOLOGIES

Star topology
Ring topology
Bus topology

BP’S SATELLITE TRANSMISSION SYSTEM


56
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

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

Case Study: Facebook  (Chap. 8) (pp.319-320)

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