Information Systems in Global Business: UPS (Chap. 1)

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http://mail.tku.edu.tw/myday/

2016-09-29
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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. 1
Information Systems in Global Business: UPS
Case Study: UPS (Chap. 1) (pp.53-54)

UPS Competes Globally with Information Technology

1. What are the inputs, processing, and outputs of UPS’s package tracking system?
2. What technologies are used by UPS? How are these technologies related to UPS’s business strategy?
3. What strategic business objectives do UPS’s information systems address?
4. What would happen if UPS’s information systems were not available?
Information Management (MIS)
Information Systems

Overview of Fundamental MIS Concepts

- Business Challenges
- Management
- Organization
- Technology
- Information System
- Business Solutions

Ponsse:
Efficiency in Wood Harvesting with Information System

Source: http://www.ponsse.com/
Overview of Fundamental MIS Concepts
using an integrated framework for describing and analyzing information systems

• Develop new production processes
• Develop new management techniques
• Increase use of data by managers

• Build new business production processes
• Train new channels of information flow
• Train employee in use of the systems

• Develop GPS systems for field use
• Create email links with operators
• Develop data base to receive information

Business Challenges
• New sources of competition
• Declining customer base
• Increasing costs

Information System
• Display and report GPS location data
• Reports on production
• Provide online coordination

Business Solutions
• Optimize utilization of forests
• Increase production efficiency
• Coordinate production process

1. How are information systems transforming business and what is their relationship to globalization?

2. Why are information systems so essential for running and managing a business today?

3. What exactly is an information system? How does it work? What are its management, organization, and technology components?

4. What are complementary assets? Why are complementary assets essential for ensuring that information systems provide genuine value for an organization?

5. What academic disciplines are used to study information systems? How does each contribute to an understanding of information systems? What is a sociotechnical systems perspective?

How information systems are transforming business

• Emerging mobile digital platform
• Growing business use of “big data”
• Growth in cloud computing

Globalization opportunities

• Internet has drastically reduced costs of operating on global scale
• Increases in foreign trade, outsourcing
• Presents both challenges and opportunities

The Interdependence Between Organizations and Information Technology

Strategic Business Objectives of Information Systems

1. Operational Excellence
2. New Products, Services and Business Models
3. Customer and Supplier Intimacy
4. Improved Decision Making
5. Competitive Advantage
6. Survival

1. Operational Excellence

• Improvement of efficiency to attain higher profitability
• Information systems, technology an important tool in achieving greater efficiency and productivity
• Walmart’s Retail Link system links suppliers to stores for superior replenishment system

2. New Products, Services, and Business Models

- **Business model**: describes how company produces, delivers, and sells product or service to create wealth

- Information systems and technology a major enabling tool for new products, services, business models
  - Examples: Apple’s iPad, Google’s Android OS, and Netflix

3. Customer and Supplier Intimacy

• Serving customers well leads to customers returning, which raises revenues and profits.
  – Example: High-end hotels that use computers to track customer preferences and used to monitor and customize environment

• Intimacy with suppliers allows them to provide vital inputs, which lowers costs.
  – Example: JCPenney’s information system which links sales records to contract manufacturer

4. Improved Decision Making

• Without accurate information:
  – Managers must use forecasts, best guesses, luck
  – Results in:
    • Overproduction, underproduction
    • Misallocation of resources
    • Poor response times
  – Poor outcomes raise costs, lose customers

• Example:
  – Verizon’s Web-based digital dashboard to provide managers with real-time data on customer complaints, network performance, line outages

5. Competitive advantage

- Delivering better performance
- Charging less for superior products
- Responding to customers and suppliers in real time
- Examples: Apple, Walmart, UPS

6. Survival

• Information technologies as necessity of business

• Industry-level changes
  – Example: Citibank’s introduction of ATMs

• Governmental regulations requiring record-keeping
  – Examples: Toxic Substances Control Act, Sarbanes-Oxley Act

Information Systems
Are More Than Computers

Dimensions of Information Systems

• Organizations
  – People, structure, business processes, politics, and culture.

• Management
  – Make sense out of the many situations faced by organizations, make decisions, and formulate action plans to solve organizational problems.

• Information Technology
  – Computer hardware, software, data management technology, networking and telecommunications technology

Perspectives on Information Systems: Data and Information

331 Brite Dish Soap  1.29
863 BL Hill Coffee  4.69
173 Meow Cat  0.79
331 Brite Dish Soap  1.29
663 Country Ham  3.29
524 Fiery Mustard  1.49
113 Ginger Root  0.85
331 Brite Dish Soap  1.29

Sales Region: Northwest
Store: Superstore #122

ITEM NO.  DESCRIPTION  UNITS SOLD  YTD SALES
331  Brite Dish Soap  7,156  $9,231.24

Functions of an Information System

Levels in a Firm

- Senior Management
- Middle Management
  - Scientists and knowledge workers
- Operational Management
  - Production and service workers
  - Data workers

## MAJOR BUSINESS FUNCTIONS

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>PURPOSE</th>
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<tbody>
<tr>
<td>Sales and marketing</td>
<td>Selling the organization’s products and services</td>
</tr>
<tr>
<td>Manufacturing and production</td>
<td>Producing and delivering products and services</td>
</tr>
<tr>
<td>Finance and accounting</td>
<td>Managing the organization’s financial assets and maintaining the organization’s financial records</td>
</tr>
<tr>
<td>Human resources</td>
<td>Attracting, developing, and maintaining the organization’s labor force; maintaining employee records</td>
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IT ISN’T JUST TECHNOLOGY: A BUSINESS PERSPECTIVE ON INFORMATION SYSTEMS
The Business Information Value Chain

**Data Collection and Storage**  
Transformation into Business Systems  
Dissemination  

**Information Processing Activities**

**Business Processes**
- Supply Chain Management
- Enterprise Management
- Customer Management
- Knowledge Management

**Business Value**

**Management Activities**
- Planning
- Coordinating
- Controlling
- Modeling and Decision Making

Firm Profitability and Strategic Position

The Business Information Value Chain

• From a business perspective, information systems are part of a series of value-adding activities for acquiring, transforming, and distributing information that managers can use to improve decision making, enhance organizational performance, and, ultimately, increase firm profitability.
COMPLEMENTARY SOCIAL, MANAGERIAL, AND ORGANIZATIONAL ASSETS REQUIRED TO OPTIMIZE RETURNS FROM INFORMATION TECHNOLOGY INVESTMENTS

Organizational assets

• Supportive organizational culture that values efficiency and effectiveness
• Appropriate business model
• Efficient business processes
• Decentralized authority
• Distributed decision-making rights
• Strong IS development team

Managerial assets

• Strong senior management support for technology investment and change
• Incentives for management innovation
• Teamwork and collaborative work environments
• Training programs to enhance management decision skills
• Management culture that values flexibility and knowledge-based decision making.

Social assets

- The Internet and telecommunications infrastructure
- IT-enriched educational programs raising labor force computer literacy
- Standards (both government and private sector)
- Laws and regulations creating fair, stable market environments
- Technology and service firms in adjacent markets to assist implementation

Contemporary Approaches to Information Systems

Contemporary Approaches to Information Systems

• Technical Approach
• Behavioral Approach
• Sociotechnical Systems

A Sociotechnical Perspective on Information Systems

Business Model
### Business Model

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<th>7</th>
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<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>
<td>Cost Structure</td>
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</tbody>
</table>

Definition of Business Model

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

Definition of Business Strategy

A business strategy is a long term plan of action designed to achieve a particular goal or set of goals or objectives.

Source: (Ostenwalder, Pigneur and Tucci, 2005)
Business Model Canvas

Infrastructure Management

Product

Customer Interface

Financial Aspects


[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=QoAOzMTLP5s](http://www.youtube.com/watch?v=QoAOzMTLP5s)
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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>Cost Structure</td>
<td>Revenue Streams</td>
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The 9 Building Blocks of Business Model

1. Customer Segments

Defines the different groups of people or organizations an enterprise aims to reach and serve

2. Value Propositions

Describes the bundle of products and services that create value for a specific Customer Segment

3. Channels

Describes how a company communicates with and reaches its Customer Segments to deliver a Value Proposition

4. Customer Relationships

Describes the types of relationships a company establishes with specific Customer Segments

5. Revenue Streams

Represents the cash a company generates from each Customer Segment (costs must be subtracted from revenues to create earnings)

6. Key Resources

Describes the most important assets required to make a business model work

7. Key Activities

Describes the most important things a company must do to make its business model work

8. Key Partnerships

Describes the network of suppliers and partners that make the business model work

9. Cost Structure

Describes all costs incurred to operate a 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.

The 9 Building Blocks of Business Model

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 Generation

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.

THE CANVAS OF BUSINESS MODEL GENERATION

<table>
<thead>
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<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>
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<tr>
<td>Open Handset</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>
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<tr>
<td>Alliance</td>
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<td>Extend Ad campaigns using Adsense</td>
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<td>Google Network Members</td>
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<td>OEMs (for Chrome OS devices)</td>
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<td>Display Advertising Mgmt Services</td>
<td>Channels</td>
<td>Mobile device owners</td>
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<td>OS and Platforms – Android, Chrome OS</td>
<td>Global Sales and Support Teams</td>
<td>Developers</td>
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<td>Hosted web-based Google Apps</td>
<td>Multi-product Sales force</td>
<td>Enterprises</td>
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<th>Cost Structure</th>
<th>Revenue Streams</th>
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<tr>
<td>Traffic Acquisition Costs</td>
<td>Ad Revenues – Google websites</td>
</tr>
<tr>
<td>R&amp;D Costs (mainly personnel)</td>
<td>Ad Revenues – Google n/w websites</td>
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<tr>
<td>Data center operations</td>
<td>Enterprise Product Sales</td>
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<tr>
<td>S&amp;M, G&amp;A</td>
<td>Free</td>
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# LinkedIn – World’s Largest Professional Network

## Key Partners
- Equinix (for data center facilities)
- Content Providers

## Key Activities
- Platform Development

## Key Resources
- LinkedIn Platform

## Value Propositions
- Manage Professional Identity and Build Professional Network
- 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

## Customer Segments
- Internet Users
- Recruiters
- Advertisers and Marketers
- Developers

## Cost Structure
- Web Hosting costs
- Marketing and Sales
- General and Administrative
- Product Development

## Revenue Streams
- Free Offerings and Premium Subscriptions
- Hiring Solutions
- Marketing Solutions

## Business Model of Banking companies

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<tr>
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<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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<td>Technology vendors</td>
<td>Call center operations</td>
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<td>Automation where possible</td>
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<td>Regulatory Agencies</td>
<td>IT Operations</td>
<td>Loan Products (Higher Interest Rates)</td>
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<td>Key Resources</td>
<td></td>
<td>Channels</td>
<td>Retail and Corporate Customers (Borrowers)</td>
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<td>Physical and IT Infrastructure</td>
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<td>Bank Branches, ATMs, Call centers, Internet, Mobile Devices</td>
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<td></td>
<td>Loan Assets</td>
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### Cost Structure
- Interest Expenses
- Channel Costs

### Revenue Streams
- Interest Income
- Fee Income

The Business Model Canvas

**Key Partners**
- MC Miš
- Local presenters
- Volunteers

**Key Activities**
- Event management
- Marketing management
- Best presentations
- Volunteers
- Presentation Hall

**Key Resources**
- Event management
- Marketing management
- Best presentations
- Volunteers
- Presentation Hall

**Value Propositions**
- Techno cake talks and presentations
- Videos about talks and presentations
- Advertising video
- WWW

**Customer Relationships**
- Facebook, Twitter, Flickr, Video-WWW
- Facebook, Twitter, Flickr, Videos, JAPTI, RIC

**Customer Segments**
- Geeks
- IT customers
- Engineers
- IT Companies
- Mobile operators
- Banks
- Insurance Co...

**Cost Structure**
- Event management costs
- Authors' costs

**Revenue Streams**
- Advertising fee
- Videos
- Logos...

How Airbnb Works?

Insights into Business Model & Revenue Model

Source: http://nextjuggernaut.com/blog/airbnb-business-model-canvas-how-airbnb-works-revenue-insights/
Airbnb Business Model Canvas

Key Partners
- Hosts (People who rent their space)
- Guests (People who book spaces)
- Photographers (Freelance)
- Investors
- Payment Processors

Key Activities
- Product Development & Management
- Building Host network and Managing hosts
- Building travelers network and managing guests

Value Propositions
Hosts
- Hosts can earn money by renting their space.
- Airbnb offers insurance to house owners.
- Free photo shoots for property listings through photographers.

Guests
- Guests can book a homestay instead of hotel.
- Prices are often less as compared to hotels.

Customer Relationships
- Customer Service
- Social Media
- Promotional Offers
- Home Insurance

Customer Segments
Hosts
- People who own a house and want to earn extra money.
- People who want to meet new people.

Guests
- People who love to travel.
- People who want to stay comfortably at a cheap price.

Channels
- Website
- Mobile App for Android
- Mobile App for iOS

Cost Structure
- Technological Set up & running costs
- Salaries to permanent employees
- Payments to freelance photographers

Revenue Streams
- Commission from Hosts upon every booking
- Commission from Guests upon every booking

Source: http://nextjuggernaut.com/blog/airbnb-business-model-canva
Case Study: P&G (Chap. 2) (pp.84-85)
Piloting Procter & Gamble from Decision Cockpits

1. What management, organization, and technology issues had to be addressed when implementing Business Sufficiency, Business Sphere, and Decision Cockpits?

2. How did these decision-making tools change the way the company ran its business? How effective are they? Why?

3. How are these systems related to P&G’s business strategy?

資訊管理專題
(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資訊管理專題個案研究問題書面報告。
4. 上課時間地點：週四 7,8 (14:10-16:00) B613
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