Case Study for Information Management

IT Infrastructure and Emerging Technologies: Salesforce.com (Chap. 5)

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Chap. 5
IT Infrastructure and Emerging Technologies: Salesforce.com
Case Study: Salesforce.com (Chap. 5)

Salesforce.Com: Cloud Services Go Mainstream

1. How does Salesforce.com use cloud computing?
2. What are some of the challenges facing Salesforce as it continues its growth? How well will it be able to meet those challenges?
3. What kinds of businesses could benefit from switching to Salesforce and why?
4. What factors would you take into account in deciding whether to use Salesforce.com for your business?

BART Speeds Up with a New IT Infrastructure

- **Problem**: Aging systems no longer able to provide information rapidly enough for timely decisions; too unreliable for 24/7 operations
- **Solutions**: Replaced and upgraded hardware and software and used leading-edge technology
  - Grid computing
  - Virtualization
  - Blade servers
- **Demonstrates IT’s role in using resources more efficiently; reducing computing energy usage, modernizing services**

IT infrastructure

• Set of physical devices and software required to operate enterprise
• Set of firmwide services including:
  – Computing platforms providing computing services
  – Telecommunications services
  – Data management services
  – Application software services
  – Physical facilities management services
  – IT management, standards, education, research and development services
• “Service platform” perspective more accurate view of value of investments

CONNECTION BETWEEN THE FIRM, IT INFRASTRUCTURE, AND BUSINESS CAPABILITIES

STAGES IN IT INFRASTRUCTURE EVOLUTION

Mainframe/Minicomputer (1959–present)

Personal Computer (1981–present)

Client/Server (1983–present)

STAGES IN IT INFRASTRUCTURE EVOLUTION

Enterprise Computing
1992–present)

Enterprise Server

Internet

Cloud and Mobile Computing
(2000–present)

A MULTITIERED CLIENT/SERVER NETWORK (N-TIER)

MOORE’S LAW AND
MICROPROCESSOR PERFORMANCE

Moore’s Law Means More Performance

FALLING COST OF CHIPS

EXAMPLES OF NANOTUBES
THE COST OF STORING DATA DECLINES EXPONENTIALLY 1950–2010

EXPONENTIAL DECLINES IN INTERNET COMMUNICATIONS COSTS

THE IT INFRASTRUCTURE ECOSYSTEM

Data Management and Storage
IBM DB2
Oracle
SQL Server
Sybase
MySQL
EMC Systems

Internet Platforms
Apache
Microsoft IIS, .NET
Unix
Cisco
Java

Computer Hardware Platforms
Dell
IBM
Sun
HP
Apple
Linux machines

Consultants and System Integrators
IBM
EDS
Accenture

Networking/Telecommunications
Microsoft Windows Server
Linux
Novell
Cisco
Alcatel-Lucent
Nortel
AT&T, Verizon

Operating Systems Platforms
Microsoft Windows
Unix
Linux
Mac OS X
Google Chrome

Enterprise Software Applications (including middleware)
SAP
Oracle
Microsoft
BEA

HOW DOLLAR RENT A CAR USES WEB SERVICES

CHANGING SOURCES OF FIRM SOFTWARE

Software outsourcing and cloud services

• Three external sources for software:
  1. Software packages and enterprise software
  2. Software outsourcing (domestic or offshore)
  3. Cloud-based software services
Cloud-based software services

- Software as a service (SaaS)
- Accessed with Web browser over Internet
- Ranges from free or low-cost services for individuals to business and enterprise software
- Users pay on subscription or per-transaction
- E.g. Salesforce.com
- Service Level Agreements (SLAs):
  - formal agreement with service providers

Software outsourcing and cloud services

• Mashups
  – Combinations of two or more online applications, such as combining mapping software (Google Maps) with local content

• Apps
  – Small pieces of software that run on the Internet, on your computer, or on your cell phone
    • iPhone, BlackBerry, Android
  – Generally delivered over the Internet

Management Issues

• Dealing with platform and infrastructure change
  – As firms shrink or grow, IT needs to be flexible and scalable
  – Scalability:
    • Ability to expand to serve larger numbers of users
  – For mobile computing and cloud computing
    • New policies and procedures for managing these new platforms
    • Contractual agreements with firms running clouds and distributing software required

Management Issues

• Management and governance
  – Who controls IT infrastructure?
  – How should IT department be organized?
    • Centralized
      – Central IT department makes decisions
    • Decentralized
      – Business unit IT departments make own decisions
  – How are costs allocated between divisions, departments?

Management Issues

• Making wise infrastructure investments
  – Amount to spend on IT is complex question
    • Rent vs. buy, outsourcing
  – Total cost of ownership (TCO) model
    • Analyzes direct and indirect costs
    • Hardware, software account for only about 20% of TCO
    • Other costs: Installation, training, support, maintenance, infrastructure, downtime, space and energy
    • TCO can be reduced through use of cloud services, greater centralization and standardization of hardware and software resources

COMPETITIVE FORCES MODEL FOR IT INFRASTRUCTURE

1. Market Demand for Your Firm's Customer Services, Supplier Services, and Enterprise Services
2. Your Firm's Business Strategy
3. Your Firm's IT Strategy, Infrastructure, and Cost
4. Information Technology
5. Competitor Firms' IT Services
6. Competitor Firms' IT Infrastructure Investments

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