TIM158
Business Information Strategy

Instructor: Safwan Shah
Spring 2015

Teaching Assistant: Paul Vroomen

To maintain consistency.
Lectures throughout TIM158 adapted or borrowed from Kevin Ross.
Additional material added as needed.
Today’s Outline

• Class logistics
• Overview of textbook
• Business Models (intro)
• Porter dissected
TIM158: Overview

- Information rules
- Information technology drives the creation and use of information
- IT can provide competitive edge to an organization
  - How, why, when, etc.
- We will discuss cases to analyze the premise “IT matters” and we will understand the thinking that “IT doesn’t matter?”
Who is a CIO?
Why does s/he matter?
When does s/he matter?
How does s/he think?

Wikipedia (at some point in time) describes a CIO as ...

The **Chief Information Officer (CIO)**, or **information technology (IT) director**, is a job title commonly given to the most senior executive in an enterprise responsible for the information technology and computer systems that support enterprise goals. The title of Chief Information Officer in Higher Education may be the highest ranking technology executive although depending on the institution, alternative titles are used to represent this position. Generally, the CIO typically reports to the chief executive officer, chief operations officer or chief financial officer.
Dissect B-S-I-S

• Business
  – An enterprise that makes money

• Strategy
  – Differentiation. Consequential action, increase in influence, removal of dependencies

• Information
  – Data < **Information** < Knowledge < Wisdom

• Systems
  – Interacting components forming a whole
A flippant rewrite

- Using Information to keep making money
TIM158: Overview

This class is designed for seniors and some juniors. There are few formal prerequisites, but you are expected to...

1. want to be here and to learn
2. have a broad knowledge and interest in information systems, technology, economics and business
3. think for yourself

The instructor comes from the industry and has lived IT, Business, Strategy – and the lack thereof. Prepare to be taken on a journey into the inner realms of “real IT, strategy, highs-lows, etc.”
Class website

- All schedules and assignments will be posted on the class website:
- Lecture notes will be posted after or soon after each lecture.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Case/Reading</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Tue, March 31</td>
<td>Introduction</td>
<td>IT Doesn’t Matter</td>
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<tr>
<td>2 Thu, April 02</td>
<td>Business Models</td>
<td>IBM</td>
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<tr>
<td>3 Tue, April 07</td>
<td>IT and biz models</td>
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<td>4 Thu, April 09</td>
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<td>Amazon</td>
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<td>5 Tue April 14</td>
<td>IT and Organization</td>
<td></td>
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<tr>
<td>6 Thu, April 16</td>
<td></td>
<td>Boeing (TBD)</td>
<td>Case draft due</td>
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<tr>
<td>7 Tue, April 21</td>
<td>Making case for IT</td>
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<tr>
<td>8 Thu, April 23</td>
<td></td>
<td>CareGroup</td>
<td>Team and Topic due</td>
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<tr>
<td>9 Tue, April 28</td>
<td>IT infrastructure</td>
<td></td>
<td></td>
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<tr>
<td>10 Thu, April 30</td>
<td></td>
<td>iPremier</td>
<td>Proposal due</td>
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<td>11 Tue, May 5</td>
<td>Reliability and Security</td>
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<td>12 Thu, May 7</td>
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<td>Ford - Dell</td>
<td>Project prop due</td>
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<td>13 Tue, May 12</td>
<td>Service Delivery</td>
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<td>14 Thu, May 14</td>
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<td>Cisco</td>
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<td>15 Tue, May 19</td>
<td>IT Project delivery</td>
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<td>16 Thu, May 21</td>
<td></td>
<td>Volkswagen</td>
<td>Prelim draft due</td>
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<td>17 Tue, May 26</td>
<td>IT Governance</td>
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<td>18 Thu, May 28</td>
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<td>AtekPC</td>
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<tr>
<td>19 Tue, June 02</td>
<td>IT Leadership</td>
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<tr>
<td>20 Thu, Jun 04</td>
<td>Conclusion</td>
<td></td>
<td>Project Due</td>
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<tr>
<td>21 Tue, Jun 08</td>
<td>Final Exam</td>
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<td>Final Exam</td>
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</tbody>
</table>
Safwan Shah
Instructor, Technology and Information Management
MS, Computer Engineering, UC Boulder
PhD, Aerospace Engineering, UC Boulder
Exec MBA – GSB, Stanford University

Interests: Mobility, Social Networks, Entrepreneurship, Leadership

Current startup is PayActiv – I am the Founder and CEO.
Previous one – Infonox
Even more previous – fail to remember … there were things. Important things.

safwan@soe.ucsc.edu
Office hours: Available - (call, email, meet)
Teaching Assistant

• Paul Vroomen
  – PhD Student.
  – Research in new forms of financing for startups
## Assessment

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Due date</th>
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<tbody>
<tr>
<td>News Presentation</td>
<td>15%</td>
<td>Throughout</td>
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<tr>
<td>Discussion Participation</td>
<td>15%</td>
<td>Throughout</td>
</tr>
<tr>
<td>Business Proposal*</td>
<td>20%</td>
<td>Thu, May ??</td>
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<tr>
<td>Project*</td>
<td>30%</td>
<td>Thu, Apr 8 and Thu, June 7</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
<td>Thu, June 6, 8:00– 11:00am</td>
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*Optional: Early draft 2 weeks in advance will be reviewed

**Policy**
Assignments are due at **the start of class** on the due date. Late assignments, missed presentations and quizzes will result in zero grade unless specific permission is given by instructor at least **one week** in advance.
Quizzes

• There will class Q&A/quiz on cases we read.
• These will be fairly short and test knowledge of the text and cases.
• Students who are absent the day of a Q&A/quiz will receive a zero grade unless they make up for that quiz
  – unless they have informed the instructor in writing at least a week in advance that they have to miss class (for some legitimate reason)
News Presentation

• Each student will present one news story to the class during the quarter.
  – The story can be from any source, and describe an interesting recent development in the use of information or IT for business strategy.
• The presentation should be professionally presented using powerpoint or similar technology.
  – 5 minutes maximum
  – Must include both factual information (who is doing what and why?) and some commentary (your opinion – is this a good idea – why?!) on the story.
  – All news sources that have been used should be acknowledged with specific references on a final slide.
• The student is responsible for one of
  (a) bringing the slides on a laptop,
  (b) bringing slides on a USB drive that will work on instructor’s laptop, or
  (c) emailing slides to the instructor the night before the presentation.

You are seniors and expectations are high
Discussion Participation

- We will study several cases. Most of these cases are ‘classics’ of the IT industry
- Read the cases with imagination
  - Immerse into the case
    - Understand
    - Take a position
    - Discuss, defend and be prepared to modify position if the rationale is compelling
Business Case

• You will be either provided with a scenario for a business information system problem, and be required to make a written proposal of a solution, as the chief information officer.

• Details will follow.
Project

- The major assignment in this class is a comprehensive project. You will analyze a major (at least 1000 employees) company, and study how they use information and information systems to achieve competitive advantage.
- The project can be completed in groups of two or three, as you select, and the company is chosen by the group.
- Details will follow, but start thinking about group and topic
Submission of assignments

Submit a hard copy of your assignment at the beginning of class, and an email copy to the instructor and TA.
Final Exam

• The final examination will cover the topics from the whole year.
• You will not be allowed to bring notes into the exam room.
Prerequisites

• This course is for juniors and seniors
• ISM/TIM 50 or permission of instructor required
• Interest in technology and business
We will use the text and cases from this version, and you will be expected to have read the appropriate section before each class.

All the cases are originally published by Harvard Business Review – and can be purchased separately from their website.
This course fulfills the ‘W’ requirement

– The business plan and project will give you training and evaluate your writing skills

– You will have the opportunity for feedback on your writing by turning in draft assignments 2 weeks early

– You must declare who writes each section of your project
Note on cheating

• All work must be your own
• Any work used as a reference must be cited appropriately
• Any violation of this will result in an instant failure for academic misconduct and this will go on your record
Feedback Please!

- Instructor has substantially revised the course material
- The course is for you
- Don’t hesitate to ask questions, give suggestions
- As senior students, you know that you’ll get out what you put in
Today’s Outline

• Class logistics
• Overview of textbook
• Business Models
• Porter’s five forces
• Porter’s competitive strategies
Corporate Information Strategy & Management

- IT is a source of opportunity and advantage but also uncertainty and risk

- Chasm between viewpoints
  - Business executives: IT detached from real business problems
  - Technical executives: Business leaders lack vision

- Undeniable rapidity of change
  - In system architecture and interfaces
  - In business
  - In work and the workforce

- IT now embedded in:
  - Definition and execution of strategy
  - Organization and leadership of businesses
  - Definitions of unique value propositions

- IT is changing our understanding of:
  - Markets
  - Industries
  - Strategies
  - Firm designs

- Information is now a major economic good
Brief History

• Premechanical Age – 3000 B to 1450 AD
  – Pens, scrolls, alphabet, numbering systems
• The Mechanical Age: 1450 to 1840
  – Gutenberg invents printing process
  – Computer word coined
• Electromechanical Age: 1840 to 1940
  – Battery, telegraph, telephone, radio
• Electronic Age: 1940 onwards ...
  – Transistor, semiconductors, computers, networks
• Cloud Age: 2005 onwards ...
  – computing as a service

http://www.tcf.ua.edu/AZ/ITHistoryOutline.htm
Brief history of IT in strategy

• Mid 1990s:
  – World Wide Web demonstrated IT potential
  – Structural and technical hurdles remained in using IT

• Late 1990s:
  – Capital markets caught the fever
  – VCs eager to spend on IT, regardless of long-term path to profitability

• 21st Century:
  – Speculative bubble burst
  – Downward spiral until 2003
What Now?

• What we know:
  – World is forever changed; IT will never return to the basement
  – Technology as core enabler, primary business channel
  – Global village is here to stay
  – Rigid organization boundaries have fallen

• What we need to do:
  – Engage in sense-making of the transformation
  – Mine the last decade of business experimentation
  – Synthesize in order to choose a path forward
<table>
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<tr>
<th>Dimension</th>
<th>Definition</th>
<th>Examples</th>
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<tbody>
<tr>
<td><strong>Offerings</strong></td>
<td>Develop innovative new products or services.</td>
<td>• Gillette Mach3Turbo razor</td>
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<td>• Apple iPod music player and iTunes music service</td>
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<td><strong>Platform</strong></td>
<td>Use common components or building blocks to create derivative offerings.</td>
<td>• General Motors OnStar telematics platform</td>
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<td>• Disney animated movies</td>
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<td><strong>Solutions</strong></td>
<td>Create integrated and customized offerings that solve end-to-end customer problems.</td>
<td>• UPS logistics services Supply Chain Solutions</td>
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<td>• DuPont Building Innovations for construction</td>
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<td><strong>Customers</strong></td>
<td>Discover unmet customer needs or identify underserved customer segments.</td>
<td>• Enterprise Rent-A-Car focus on replacement car renters</td>
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<td></td>
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<td>• Green Mountain Energy focus on “green power”</td>
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<td><strong>Customer Experience</strong></td>
<td>Redesign customer interactions across all touch points and all moments of contact.</td>
<td>• Washington Mutual Occasio retail banking concept</td>
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<td></td>
<td>• Cabela’s “store as entertainment experience” concept</td>
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<tr>
<td><strong>Value Capture</strong></td>
<td>Redefine how company gets paid or create innovative new revenue streams.</td>
<td>• Google paid search</td>
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<td>• Blockbuster revenue-sharing with movie distributors</td>
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<td><strong>Processes</strong></td>
<td>Redesign core operating processes to improve efficiency and effectiveness.</td>
<td>• Toyota Production System for operations</td>
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<td>• General Electric Design for Six Sigma (DFSS)</td>
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<td><strong>Organization</strong></td>
<td>Change form, function or activity scope of the firm.</td>
<td>• Cisco partner-centric networked virtual organization</td>
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<td>• Procter &amp; Gamble front-back hybrid organization for customer focus</td>
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<td><strong>Supply Chain</strong></td>
<td>Think differently about sourcing and fulfillment.</td>
<td>• Moen ProjectNet for collaborative design with suppliers</td>
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<td>• General Motors Celta use of integrated supply and online sales</td>
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<tr>
<td><strong>Presence</strong></td>
<td>Create new distribution channels or innovative points of presence, including the places where offerings can be bought or used by customers.</td>
<td>• Starbucks music CD sales in coffee stores</td>
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<td>• Diebold RemoteTeller System for banking</td>
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<td><strong>Networking</strong></td>
<td>Create network-centric intelligent and integrated offerings.</td>
<td>• Otis Remote Elevator Monitoring service</td>
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<td>• Department of Defense Network Centric Warfare</td>
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<td><strong>Brand</strong></td>
<td>Leverage a brand into new domains.</td>
<td>• Virgin Group “branded venture capital”</td>
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<td>• Yahoo! as a lifestyle brand</td>
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A 360-Degree View

Business Innovation Comes in Many Flavors.

Dimensions of Business Innovation, “p. 78.”)

The Innovation Radar, “above and “The 12

pursuit. Thus, the innovation radar contains a total of 12 key

dimensions of the business system that can serve as avenues of

to market. Between these four anchors, we embed eight other

employs and (4) the points of presence it uses to take its offerings

company creates, (2) the customers it serves, (3) the processes it

innovate. Much like a map, the innovation radar consists of four

dimensions through which a firm can look for opportunities to

value by voting with their wallets. It makes no difference how innovative a

provides. It lacks a valuable end-user application spectacularly as a terrific new technology that

Business innovation requires the careful consideration of all aspects of a business. A great product

successes or failures can succeed just as spectacularly. And if the company

innovation by voting with their wallets.

The question then immediately arises: How many possible dimensions of business innovation are there, and how do they

innovations, such as the company’s ability to provide a better customer experience to underserved customer segment. JetBlue Airways

Chamberlain Group ADT, Sony, MicroSoft and ConocoPhilips.

in depth with a group of leading companies, including Motorola,

dimensions of business innovation are there, and how do they


0. Apple /Foxconn: 1. Samsung 2. Apple

0. Starbucks Music Gilt: 1. Set top box 2. Cloud

0. Gilt: 1. Apple /Foxconn 2. Dell

0. Driver: 1. Toyota/Benihana 2. Partner centric IBM 2. P&G front-back Hybrid org

0. Driver: 1. Toyota/Benihana 2. Partner centric IBM 2. P&G front-back Hybrid org

0. Supply Chain: 1. Partner centric IBM 2. P&G front-back Hybrid org

0. Networking: 1. Gillette Razor 2. iPod/iPad

0. Offerings (WHAT): 1. Gillette Razor 2. iPod/iPad

0. Platform: 1. iTunes 2. Facebook

0. Customers (WHO): 1. iTunes 2. Facebook

0. Customer Experience: 1. Cisco 2. IBM GS

0. Solutions: 1. Cisco 2. IBM GS

0. Supply Chain: 1. Toyota/Benihana 2. Partner centric IBM 2. P&G front-back Hybrid org

0. Organizational: 1. Toyota/Benihana 2. Partner centric IBM 2. P&G front-back Hybrid org

0. Processes (HOW): 1. Toyota/Benihana 2. Partner centric IBM 2. P&G front-back Hybrid org


0. MIT Sloan Management Review- Spring 2006
Focal Themes

Three modules in the text

1. IT and Business Advantage
   IT impacts the business through its effects on the three components of the business model: strategy, capabilities, and value

2. The Business of IT
   Managing IT operations, services, and project delivery requires managing trade-offs among costs, opportunities, and risks

3. IT Leadership
   High-level management, leadership, and governance activities set the context for leveraging IT-enabled strategic insight and ensuring IT operational excellence
Module 1: IT and Business Advantage

- Continued rapid spending growth
  - Truly global spending distribution

- Ever increasing dependence on and impact of IT
  - Search for opportunity
  - Avoidance of operational risk

- How to leverage IT to create business advantage.
Overview of Module 1

• Chapter 1
  – Introduces the organizing framework for the module
  – Defines a business model
  – Explores evaluation of business models

• Chapters 2
  – Examines the impact of IT on business models

• Chapter 3
  – Examines the impact of IT on organizational capabilities

• Chapter 4
  – Examines the impact of IT on business value
What is a Business Model?

• Defines how enterprise relates to environment
  – Strategy aligns organization with environment
  – Resources in and out
  – How value is created for stakeholders
  – Sets goals and ways to achieve them

Another definition ...

How you make money
Business Model Definition

A business model defines how an organization interacts with its environment to define a unique strategy, attract the resources and build the capabilities required to execute the strategy, and create value for all stakeholders.

(c) Lynda Applegate 2009
Components of a Business Model