To maintain consistency.
Lectures throughout TIM158 adapted or borrowed from Kevin Ross.
Additional material added as needed.
TIM 158 Lecture 3

Disruption
IT Impact on Business Models
Disruption

Disruption is the “transfer of wealth in an industry from dominant incumbents to disadvantaged entrants.”

http://www.asymco.com/2012/03/12/what-is-disruption-and-how-can-it-be-harnessed1/
What Disrupts

- Significant customer dissatisfaction with status quo
- New technology or business model that provides significant EV
- Entry of an innovator
- Globalization
- Regulator, political, social change
- Exit of a large player
Impact of disruption

- Mobilizes entrepreneurial excitement
  - Venture funding accelerates
- Paralyzes incumbents serving the segment.

A disruptive innovation is an innovation that creates a new market and value network that will eventually disrupt an already existing market and replace an existing product. Example?
Innovators Dilemma

Clay Christensen – Innovators Dilemma

Value Delivered/Total Cost

Innovator/ New Entrant

Today T1 T2 Time

Disruptive Trajectory

Current Product Service Evolutionary Trajectory
Another look

How low-end disruption occurs over time.
Business Lifecycle


does IT matter?

Book by Nicholas G. Carr

Over the last decade, and even since the bursting of the technology bubble, pundits, consultants, and thought leaders have argued that information technology provides the edge necessary for business success. ...

Published: 2004

Author: Nicholas G. Carr
IT Doesn’t Matter?

• Premise
  – To win, businesses spend over 50% of capital expenditures. This is wrong. IT is a commodity.
  – Scarcity not ubiquity makes a business resource strategic (Porter anyone?) If IT is a commodity then it cannot give you competitive advantage.
  – No company builds a strategy on something everyone has or can have easily.
  – Biggest risk of IT is overspending. Spend less. Make IT mundane and focus on products. Beware of IT failures because too much dependence can paralyze you too – HAL?
• So –
  – Spend less
    • Single purpose HW. Don’t buy features you don’t use.
    • Don’t have extra storage
    • Follow don’t lead
      – Wait for prices to come down and standards to stabilize
      – Focus on risks and don’t be seduced by opportunities
Concluding thoughts

• IT thrives
• Clouds everywhere
• IT does matter – more than we think or even know
Next Week

• IT and Business Models
• Pick an area of interest and discuss
## Options for Evolving Strategy

<table>
<thead>
<tr>
<th>Product</th>
<th>Enhance</th>
<th>Expand</th>
<th>Extend</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improve quality, lower cost, increase ease-of-use, add features</td>
<td>Add new products or services</td>
<td></td>
<td>Drop a feature, a service, or a product</td>
</tr>
<tr>
<td>Market</td>
<td>Attract new customers within existing market through advertising, etc.</td>
<td>Expand into new markets, segments, or geographies</td>
<td>N/A</td>
<td>Exit a market, segment, or geographic region</td>
</tr>
<tr>
<td>Channel</td>
<td>Improve quality, cost, or capacity of a current channel</td>
<td>Add new channels</td>
<td>N/A</td>
<td>Exit a channel</td>
</tr>
<tr>
<td>Value Chain/Network</td>
<td>Improve operations and/or relationships with current suppliers, partners, etc.</td>
<td>Add new suppliers or partners; outsource an activity</td>
<td>N/A</td>
<td>Stop doing business with a supplier or partner; insource an activity</td>
</tr>
<tr>
<td>Business Model</td>
<td>Improve the alignment or economics of current business model</td>
<td>Add new revenue streams</td>
<td>Extend into a new business or adopt a new business model</td>
<td>Exit a business or business model</td>
</tr>
</tbody>
</table>
F. Warren McFarlan

Baker Foundation Professor
Albert H. Gordon Professor of Business Administration, Emeritus

Professor McFarlan earned his AB from Harvard University in 1959, and his MBA and DBA from the Harvard Business School in 1961 and 1965 respectively. He has had a significant role in introducing materials on Management Information Systems to all major programs at the Harvard Business School since the first course on the subject was offered in 1962. He has been a long-time teacher in the Advanced Management Program: International Senior Managers Program, Delivering Information Services Program, and several of the Social Sector programs. He is currently teaching in several short Executive Education programs.
McFarlan’s Strategic Grid

- **High Impact on Strategy**
  - Charles Schwab
- **Low Impact on Strategy**
  - Manufacturing Firm
  - Consulting Firm

- **High Impact on Business Operations**
  - Nasdaq
- **Low Impact on Business Operations**
  - Factory
  - Support
  - Turnaround

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Business Case Assignment

- Individual Assignment, posted on class website
- Due by April 30/May 5, 2015
- Early is OK

Please review the separate slide deck for the Business Case Assignment
Key Learning Objectives

• Understand that IT can impact the business model through its effects on strategy and/or organizational capabilities
  – Strategy (antidote of competition, roadmap)
  – Capabilities

• Learn how to analyze the potential of IT to create strategic opportunities

• Understand how to evaluate IT as a potential source of strategic risk
Today’s lecture

1. Analyzing the impact of IT
2. The role of IT in strategy
3. Limits and risk for IT
4. Performing a strategy audit
5. How does strategy evolve?

Business Case Assignment
Analyzing IT Impact

- We can analyze the impact of IT on the business model by considering the two key dimensions of a business model
  - Strategy
    - How to win
  - Capabilities
    - What will it cost
Business Model

- Enterprise
- Environment

Strategy

- Human resources
- Capital, Infrastructure, ...

Capabilities

Value $$
Brand, Products

Strategy defines – Revenue and growth potential.
What is a Business Model

It is how you make money
Business Model

To Vendors

Customer Acquisition

CAC $4.00

User

Cost of Sales $7.00

$ out

$ out

The Business

$ In $20 / user Revenue

Profit

$9.00 per user
Business Models

Two Tests

• Narrative
  – That is compelling

• Numbers
  – That make sense ($$)

Components

• Customer Value Proposition
• Technology and Ops Management
• Go-To-Market Plan
• Profit Formula (Unit Economics)

- Peter Drucker -

A good business model answers these two questions:
1. Who is the customer?
2. And what does the customer value?
IT Impact Map: IBM Path to Business Transformation

(c) Lynda Applegate 2009
IT Impact Map: Medtronic (MDT) Path to Business Transformation

1. Remote Monitoring Business Plan
2. MDT CareLink Implementation
3. Diabetes Remote Monitoring

(c) Lynda Applegate 2009
Opportunities

- Can IT change basis for competition?
- Can IT change balance of power among buyers and suppliers?
- Can IT build or reduce barriers to entry?
- Can IT increase or decrease switching costs?
- Can IT add value to existing products and services or create new ones?
Can IT change basis for competition?

- Doing more than just automation
  - Farmers Insurance
  - American Hospital Supply Corporation
  - American Airlines
    - Tech give-aways
    - Self-service
- Discount Brokerages
  - Schwab, eTrade
  - High quality but scalable
Can IT change balance of power among buyers/suppliers?

- Toyota
- Walmart
- eBay and Alibaba
- Unexpected evolution to small number of trusted marketplaces
Can IT build/reduce barriers to entry?

• Initially the cost to develop a proprietary network or transaction system was a significant barrier to entry
  – Discover, American Express
  – Visa, Mastercard

• Now the value of information generated from the network is more valuable barrier
  – E.g. loyalty programs, loyal communities
Can IT increase or decrease switching costs?

- Ideally make a system easy to start, hard to stop using
- Classic examples use customer information as a lock-in
  - Intuit Quicken/Turbotax
  - Google
  - Yahoo
  - LinkedIn
  - Facebook
Can IT add value to existing products and services or create new ones?

• Information-enabled services in many industries, eg vehicle computer systems
  – Onboard diagnostics
    • Insurance premiums
• Airline information systems include maintenance, booking, in-flight entertainment etc.
  – Weight matters
    • Airlines charging by weight of person!!
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Competitive Strategies (Overall cost leadership)

- Seeking Out Low-cost Customers
- Standardizing a Custom Service
- Reducing the Personal Element in Service Delivery (promote self-service)
- Reducing Network Costs (hub and spoke)
- Taking Service Operations Off-line
Competitive Service Strategies (Differentiation)

- Making the Intangible Tangible (memorable)
- Customizing the Standard Product
- Reducing Perceived Risk
- Giving Attention to Personnel Training
- Controlling Quality

Note: Differentiation means being unique in brand image, technology use, features, or reputation for customer service.
### Competitive Role of Information

#### Strategic Focus

<table>
<thead>
<tr>
<th>External (Customer)</th>
<th>On-line (Real time)</th>
<th>Off-line (Analysis)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creation of barriers to entry:</strong></td>
<td><strong>Database asset:</strong></td>
<td></td>
</tr>
<tr>
<td>Reservation system</td>
<td>Selling information</td>
<td></td>
</tr>
<tr>
<td>Frequent user club</td>
<td>Development of services</td>
<td></td>
</tr>
<tr>
<td>Switching costs</td>
<td>Micro-marketing</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal (Operations)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue generation:</strong></td>
<td><strong>Productivity enhancement:</strong></td>
<td></td>
</tr>
<tr>
<td>Yield management</td>
<td>Inventory status</td>
<td></td>
</tr>
<tr>
<td>Point of sale</td>
<td>Data envelopment analysis (DEA)</td>
<td></td>
</tr>
<tr>
<td>Expert systems</td>
<td>Analysis (DEA)</td>
<td></td>
</tr>
</tbody>
</table>
Information Technology can change the way that an organization (business or public sector) competes.

- As the foundation for organizational renewal.
- As a necessary investment that should help achieve and sustain strategic objectives.
- As an increasingly important communication network among employees and with customers, suppliers, business partners and even competitors.
Strategic Roles of Information Systems

• Lower Costs
• Differentiate
• Innovate
• Promote Growth
• Develop Alliances
• Improve Quality and Efficiency
• Build an IT Platform
• Support (enable) other Strategies
Common example of Strategic IT: Using Information to Categorize Customers

• **Coding** grades customers on how profitable their business is.
  – Marriott, Harrahs, …

• **Routing** is used by call centers to place customers in different queues based on customer code.
  – Reverse lookup and link to profile
  – AVS

• **Targeting** allows choice customers to have fees waived and get other hidden discounts.

• **Sharing** data about your transaction history with other firms is a source of revenue.
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Limits in the Use of Information

- Anti-competitive (Barrier to entry)
  - First Data … Google/Facebook
- Fairness (Yield management)
- Invasion of Privacy (Micro-marketing)
- Data Security (HIPAA) (Medical records)
- Reliability (Credit report)
  - Experian, Equifax, TRW
Risks

• Can emerging technologies disrupt current business models?
  – Maybe, Yes or YES

• Are we too early or too late to exploit IT opportunity?

• Does IT lower entry barriers?

• Does IT trigger regulatory action?
Categories of Strategic Risk

- **I**: Dumb Idea or “Mandatory”
  - Size of Opportunity: Small
  - Ability to Execute: Hard

- **II**: Quick Win
  - Size of Opportunity: Easy
  - Ability to Execute: Hard

- **III**: Sustainability Risk
  - Size of Opportunity: Large
  - Ability to Execute: Easy

- **IV**: Implementation Risk
  - Size of Opportunity: Large
  - Ability to Execute: Hard

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Strategy Audit of Company

• Market/Channel position
  – Who are customers?
  – How to reach them

• Product position
  – What products/services to offer
  – Features, price

• Value chain/value network position
  – Role with respect to suppliers, producers, distributors, partners

• Boundary Position
  – What won’t you do?
Product/Market Positioning in the US Retail Financial Services Industry, 1990

- **Banking**
- **Credit Cards**
- **Mutual Funds**
- **Discount Brokers**
- **Full-Service Brokers**
Strategic Vision

Service Concept

• What are important elements of the service to be provided, stated in terms of results produced for customers?
• How are these elements supposed to be perceived by the target market segment, by the market in general, by employees, by others?
• How do customers perceive the service concept?
• What efforts does this suggest in terms of the manner in which the service is designed, delivered, marketed?
Strategic Vision

Operating Strategy

• What are important elements of the strategy: operations, financing, marketing, organization, human resources, control?
• On which will the most effort be concentrated?
• Where will investments be made?
• How will quality and cost be controlled: measures, incentives, rewards?
• What results will be expected versus competition in terms of, quality of service, cost profile, productivity, morale/loyalty of servers?
Strategic Vision

Service Delivery System

• What are important features of the service delivery system including: role of people, technology, equipment, layout, procedures?

• What capacity does it provide, normally, at peak levels?

• To what extent does it, help insure quality standards, differentiate the service from competition, provide barriers to entry by competitors?
Today’s lecture

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Strategic Shifts

• Strategy changes over time
• Flow of information makes this possible
  – Enhancement (improve existing)
  – Expansion (launch new)
  – Extension (new business or business model)
  – Exit (drop product/category/market/channel)
Case for Lecture 4

- Amazon.com: The brink of bankruptcy