Overriding Class Objective

*Develop or enhance the leadership skills for dealing with:*

- Complex Systems → Technical Skills
- Complex Markets → Business Skills
- Complex Organizations → People Skills
How Do You Develop Such Skills?

Hypothesis: Mostly through experience, deep thinking, and continuous learning . . . .

- Literature – reading list
- Specific case study – IBM and the Internet
- Your own experiences – class discussions and class project
Class Overview

- Technology-based innovation and business survival
- Formulating a market strategy around a new, disruptive, complex technology
- Executing a multi-faceted strategy in the marketplace
- Organizational and cultural Issues
- Class project presentation and discussion
Why is There So Much Focus on Innovation Now?
Why is There So Much Focus on Innovation Now?

- Huge Opportunities
Many Opportunities for Innovation Across the Board

**Policy & Society**
- Trademark for THE WALLSTREET JOURNAL
- Trademark for San Josh Mercury News
- Trademark for The New York Times

**Culture & Management**
- Trademark for openinvention network
- Trademark for Firefox
- Trademark for Power.org
- Trademark for Apache Software Foundation

**Business Models**
- Trademark for bharti
- Trademark for Parcelhouse
- Trademark for STOCKHOLMS

**Business Processes**
- Trademark for MAERSK SEALAND
- Trademark for defra
- Trademark for Valtur

**Services & Solutions**
- Trademark for D&B
- Trademark for NORWICH UNION
- Trademark for sesame workshop

**Technology & Product**
- Trademark for TOSHIBA
- Trademark for SONY
- Trademark for BOEING
- Trademark for Microsoft Raytheon

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Cite as: Irving Wladawsky-Berger, course materials for ESD.57 Technology-based Business Transformation, Fall 2007. MIT OpenCourseWare (http://ocw.mit.edu/), Massachusetts Institute of Technology. Downloaded on [DD Month YYYY].
Why is There So Much Focus on Innovation Now?

- Huge Opportunities
- And, - We Don’t Have a Choice: Innovate or Fade Away . . .
One Minute the World is Your Oyster …
... the Next Minute Everything’s Changing ...
... and Suddenly It’s a Whole New World
The IBM Story
The IBM Story

- The Rise

- S/360 Architecture - Compatible Family of Processors
- Industry Eco-System
- Technical and Business Skills
- Multi-National Company
- IBM PC
IBM at the Top - 1984

Image removed due to copyright restrictions.
Cover of Fortune Magazine; “America’s Most Admired Corporations.”
What Usually Happens Next?

*The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* - Clay Christensen
What Usually Happens Next?

The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail - Clay Christensen

The Innovator’s Dilemma summarized a theory that explains how, under certain circumstances, the mechanism of profit-maximizing resource allocation causes well run companies to get killed.
Tragedy … depicts the downfall of a noble hero or heroine, usually through some combination of hubris, fate, and the will of the gods.

The tragic hero's powerful wish to achieve some goal inevitably encounters limits, usually those of human frailty (flaws in reason, hubris, society), the gods (through oracles, prophets, fate), or nature.

The hero need not die at the end, but he / she must undergo a change in fortune.

Courtesy of Wikipedia.
The IBM Story

- The Rise

- The Fall
The Fall: Late 1980s, Early 1990s

- Rising Power of Microprocessors
- PC Explosion – Microsoft/Intel (Wintel) Supremacy
- New Distributed Computing Model – Client/Server
- New Competitors – Sun, HP, SGI, Compaq, . . .
- Disaggregated, Horizontal Markets
- Mainframe Profit Margins Collapse
- Massive Restructuring Required
The Fall – Reversal of Fortune

Image removed due to copyright restrictions.
Cover of Fortune Magazine; “America’s Most Admired Corporations.”

Image removed due to copyright restrictions.
Cover of Fortune Magazine; “Dinosaurs? The decline of these three giants is the biggest what-went-wrong story in U.S. business history.”

1984 1992
Text removed due to copyright restrictions.
Quote from the New York Times stating that IBM, once a leader and innovator, is now a follower that has trouble responding to rapidly changing technology.

The Growth Imperative

Text removed due to copyright restrictions.
Quote from book below, stating that once a company’s business practices have matured into a stable form, exploring new avenues is risky and difficult, and attempts to grow in new ways can sometimes be so unsuccessful it would have been better not to try in the first place.

The Innovator’s Solution - Clay Christensen and Michael Raynor
Sobering Statistics

- Of the 172 companies that have appeared on the Fortune 500 list between 1955 and 1995, only 5 percent grew their revenue above the overall inflation rate.

- Only 16 percent of 1,008 companies tracked from 1962 to 1998 survived.

- The average lifetime of a firm is now one-third of what it was in the 1930s; on average, large companies in North America and Europe now fail within just 20 years.

*Let Go to Grow – Linda Sanford with Dave Taylor*
The IBM Story

- The Rise
- The Fall
- The Re-Birth
The Re-Birth: Getting Ready for the Future

- Technology Shift Anticipated by IBM’s Technical Community
- Search for Alternatives in R&D Labs
- Mainframe Reinvented Using Microprocessors and Parallel Architectures
- Solutions Validated with Experimental Prototypes
- Market Acceptance: Mainframe Compatibility and Capabilities at Competitive Prices
The Re-Birth: Massive Restructuring

- New Management Team - Lou Gerstner
- First CEO from Outside IBM
- Restructuring Implemented: Plant Closings, Layoffs
- Decision Made to Keep Company Together
- Many Organizational Changes
The Re-Birth: Cultural Transformation

- Market-based Strategies
- Embrace of Open Standards
- Transition from Mainframe-Centered Strategy to Integrated Multi-Vendor Distributed Systems
- Transition from Hardware-based Strategy to Hardware, Software and Services-based Integrated Solutions
- Embrace Collaborative Innovation
The Re-Birth: New Technology-based Market Initiatives

- Internet, Web and e-business
  plus
- Supercomputing
- Linux and Open Source
- Social Networks/Web 2.0 and Virtual Worlds
- On Demand, Business Architecture
- Services and Services Sciences
Who Says Elephants Can’t Dance – Lou Gerstner

Text removed due to copyright restrictions.
Quote from book below that uses System/360 as an example of how a once-brilliant business model can become ruinously outdated.
What must happen next in order for a business to survive?

Text removed due to copyright restrictions.
Quote from book below, advising businesses to become the disruptor, rather than the disruptee, of current business and technology status quo. To do so successfully, one must tailor each decision and process in the business to fit the disruptive circumstances.

The Innovator’s Solution: Creating and Sustaining Successful Growth – Clay Christensen and Michael Raynor
Key Questions

- Was the IBM experience – rise, fall, re-birth – unique, or typical of other companies?
- Would IBM have undergone its huge changes, if it had not gone through a near-death experience?
- How did this history and recent changes influence IBM’s particular Internet and e-business strategies?
- What are key differences and similarities in different journeys companies take in embracing similar technologies – large and small, new and old, local or global, . . . ?
The Re-Birth: The Internet, Web and e-business...