Technology-based Business Transformation

ESD.57 – Fall 2007

Irving Wladawsky-Berger

Society

Business

Technology

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 WALLLSTREET 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

7

Images removed due to copyright restrictions.

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**

The Rise: 1960s - 1970s - 1980s

- S/360 Architecture - Compatible Family of Procesors

- Software - Operating Systems, Transaction Processing, Storage Management, Network Management, . . .

- 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."

15 15

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.

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 New York Times, December 16, 1992

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

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.

Who Says Elephants Can't Dance – Lou Gerstner

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...

Technology-based Business Transformation

Irving Wladawsky-Berger

irvingwb.com

Society

Business

Technology