RADICAL INNOVATION

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HISTORY OF INNOVATION AT GOOGLE

1. The Search Engine
   - Key Concept: The PageRank algorithm
2. Adwords
   - Key Concept: Clickthrough-based ranking
3. Google Docs
4. Google Maps, News, Checkout
5. Android
6. Chrome
7. Google Wallet
Eric Schmidt to quit, Larry Page to take over as Google CEO

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Google Inc co-founder Larry Page will take over as CEO from Eric Schmidt, a surprise that signaled Silicon Valley's most powerful Internet company was taking the offensive against fast-moving rivals like Facebook.

Schmidt will step aside on April 4 and make way for Page -- who created the company with fellow Stanford University alumnus Sergey Brin in 1998 -- to take the reins of a company that has dominated Internet search for a decade but is in danger of losing traffic to social networks like Facebook and Twitter.

"Day-to-day adult supervision no longer needed!" Schmidt tweeted after the announcement.

Schmidt, who became CEO in 2001 to bring more management experience to a then-fledgling company, will assume the role of executive chairman, focusing on
THE ONLY CONSTANT IS CHANGE ITSELF

Are you ready for it?
THEORIES OF DISRUPTION, CREATION AND INNOVATION

- Creative Destruction
  - Schumpeter, 1945

- Dominant Design
  - Utterback and Abernathy, 1975

- Disruptive Technologies/Innovations
  - Bower & Christiansen, 1995
DOMINATION VERSUS DISRUPTION

**DOMINANCE**

- Dominant Design
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**DISRUPTION**

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RADICAL INNOVATION

Disruptive: Peripheral Vision
• When you are blind-sided but not necessarily by technology

Radical: Forward Vision
• A huge technological or business leap

Radical innovation: Preparing for both
1. Get ahead of the competition by innovating
2. Be prepared for creative destruction (eat your old)
DOMINANT DESIGN

- Internal battery
- Apps/app-store
- iTunes/Music Store
- Multi-function

DO INANCE FADES

Waiting for disruption
1. Feature overshoot (sustenance mode)
2. NIH vs. PFE
3. Kool-aid complex
4. Artery thickening
DISRUPTION
Harnessing the inevitable
DISRUPTIVE FORCES

Calamity-triggered disruption

Your target market

Adjacent market disruption

Low-end disruption
LOW-END DISRUPTION

- Discount airlines/full service airlines
- Minicomputers/mainframes
- Personal computers/minicomputers
- Digital photography/chemical photography
- Telephone/telegraph

- Low-end functionality
- Tight profit margins
- But quick adoption
NEW MARKET DISRUPTION

Your market

Encroachment

- Podcasting versus broadcasting
- Email versus surface mail
- Cellular phones versus land-lines
CALAMITY-TRIGGERED DISRUPTION

• Y2K triggers outsourcing to India
  • Disrupts existing providers like IBM

• Sudden standards/code/regulation changes leave competition reeling
  • HTML versus Microsoft
  • VHS versus Betamax
BEING OUTGUNNED

- Disruption is about a sideways attack
  - By something cheaper, better
  - Something you refused to see
- Being out-gunned by the competition from adherence to existing ideas
  - Culture lock
  - Inability to adopt new ideas
- Either way, need to be prepared to abandon dogma
S-CURVES

Performance

Time
MASS VERSUS VELOCITY

Why startups have an advantage

• Nothing to lose
• Accept low-success rate
• Incented, dedicated employees
SO, HOW DO WE HANDLE DISRUPTION?

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CREATIVE DESTRUCTION

Joseph Schumpeter in "Capitalism, Socialism and Democracy" (1942)

"process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one."

Origins in revolutionary theory and Eastern religion!

All good things come to an end
so
Embrace(accelerate) the end and incubate the new
MIT OPEN COURSEWARE

1998: MIT is worried about distance-learning threat from the Internet

1999: Hire brilliant consultant(s) to analyze opportunity

2000: MIT decides to launch Open Courseware: all classes published for free on website

FIRE AND FORGET

- Ideate and choose
- Pick team, market and finance
- Launch raiding party
- Get out of the way

Intrapreneurship was the exception: We contend it is becoming the norm

New Bedford whale hunt:
Do you have some boats out?
**CORNING & CO.**

- Corning is a shape-shifting company
- Roger Ackerman took over from James Houghten in 1995
- Sold Kitchenware in 1996
- By 2000, had 50% US market-share in fiber-optics, 33% worldwide
- Market-share went up $9B-$60B

**Today:**
- 10% in R&D even today
- Display Technologies, Environmental Technologies, Life Sciences, Telecommunications and Specialty Materials
MONSANTO

1. History: plastics, saccharin, vanillin, caffeine, LED’s, agent Orange
3. Invented Roundup, a broad-spectrum herbicide: 1970’s
4. Invents genetically modified foods: 1982
   • Starts acquiring seed companies in 1990’s
INNOVATION: WHAT GETS ON THE BOAT?

1. BEARING: IF YOU SEE A WHALE
   - Identified need
   - Closed versus open innovation
     - Cisco/Oracle prizes
     - P&G Open Innovation

2. CONTENTS
   - People with relevant skills
   - Money

3. AND THE MOTHERSHIP?
   - Provide a fair wind
   - Stay of the way until rendezvous