Class 3: Basics of Innovation and Entrepreneurship

Why is Wal-Mart one of the biggest companies in the world?

- Not the business model
- Not just the selection of goods
- Not just offering everyday low prices
- Itôs WHY they have huge selections, with low prices, in hundreds of stores worldwide
- Wal-Mart is absolutely, positively the BEST in inventory management

Why and how?

- Every stores sales tied to central computers.
  - To the minute, they know what items are selling at what stores
  - Automated inventory ordering programs place orders to distribution systems to assure continued supply
  - Tracking of inventories with RFID and other systems ensures right things, right place, right time
  - Huge reductions in pilfering

Wal Mart is both entrepreneurial and innovative…

- Entrepreneurs are not just those who start new, small businesses
- Invention is not innovation
- Classic definition:
  - Entrepreneurs shift economic resources out of an area of lower and into an area of higher productivity and greater yield

Innovation is not the same as invention…

- Innovation doesnôt have to be technical, doesnôt even have to be a ñthingò
- ñInvention turns cash into ideas, innovation turns ideas into cashò
- A definition as good as any:
  - ñInnovation is changing the wealth-producing potential of already existing resourcesò

Innovation is the specific instrument of entrepreneurship

- Does not have to be risky
  - Innovation at low risk is the norm
    - Bell Labs
    - Apple
    - Proctor and Gamble
    - Wal-Mart
  - Management is the greatest ñriskò
- Innovation creates resources
  - ñResourcesòdo not exist until people find a use for something in nature and endow it with economic value

So where do they come together?

- Entrepreneurs search for change, respond to it, and exploit it as an opportunity
- Innovation provides the process to exploit opportunities

Main sources of innovation

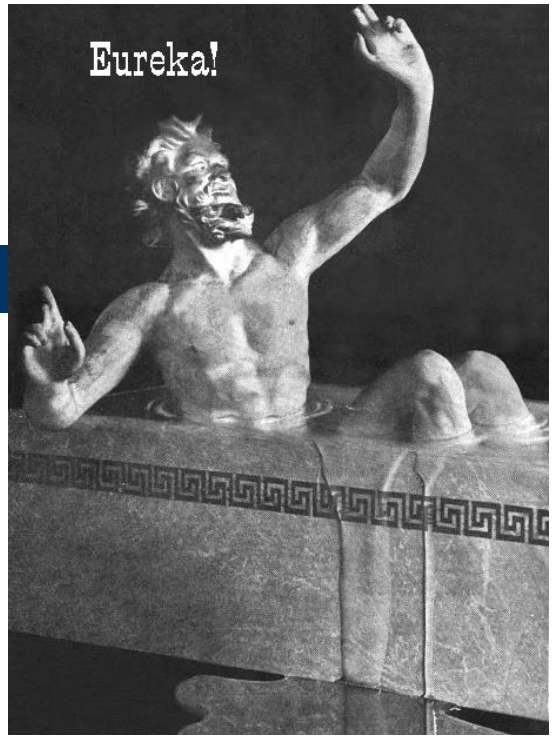
- Opportunity-based
  - The unexpected: success, failure or an outside event
  - Incongruity between reality as it is and as it is ASSUMED to be
- Needs-based
  - Innovation based on a process need
  - Changes in markets or industries that catch everyone unawares

Sources of innovation, cont.

- Driven by outside forces
  - Demographics
  - Changes in perception, mood, meaning
  - New knowledge, scientific and non-scientific

The Unexpected

- The Unexpected Success
  - May be richest source of innovation
  - Hard to accept by senior management; challenges the status quo
  - Often creates new markets
  - Examples: mini-mills, IBM, and Matsushita
- The Unexpected Failure
  - New Coke
- The Unexpected Outside Event
  - The rise of computer games and personal computers

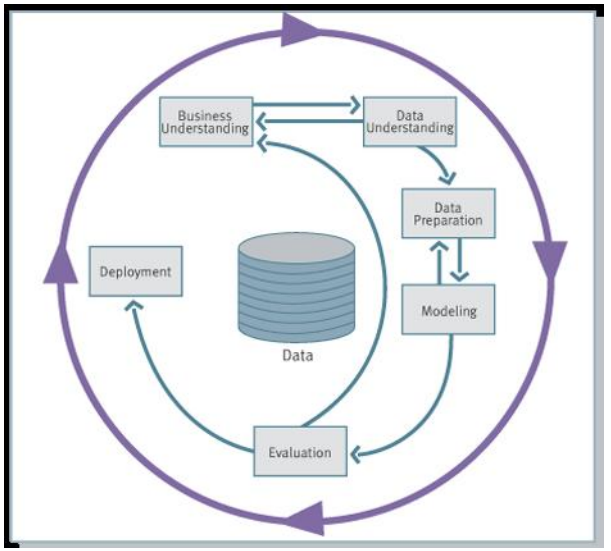


Incongruities

- Dissonance or discrepancy between what is and what ñought to beò
- Could be based on economic reality, industry perceptions, or customer perceptions, logic of process
- Examples: mini-mills (economic), shipping (industry perception), Amazon.com (customer perceptions), Alcon Labs (process)

Process Need

- Robotics in industry
- E-retailing
- Cashless transactions
- Precision diagnostics

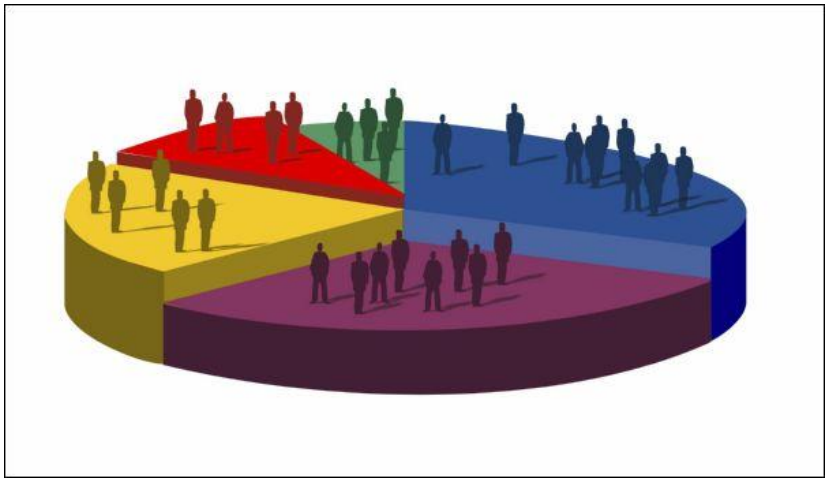


Changes in Industry

- Pharmaceuticals and Hospitals

Demographics and Changes in Perception, Mood, Meaning

- Aging of America
- ñGreeningòof America
- Adult education



New Knowledge

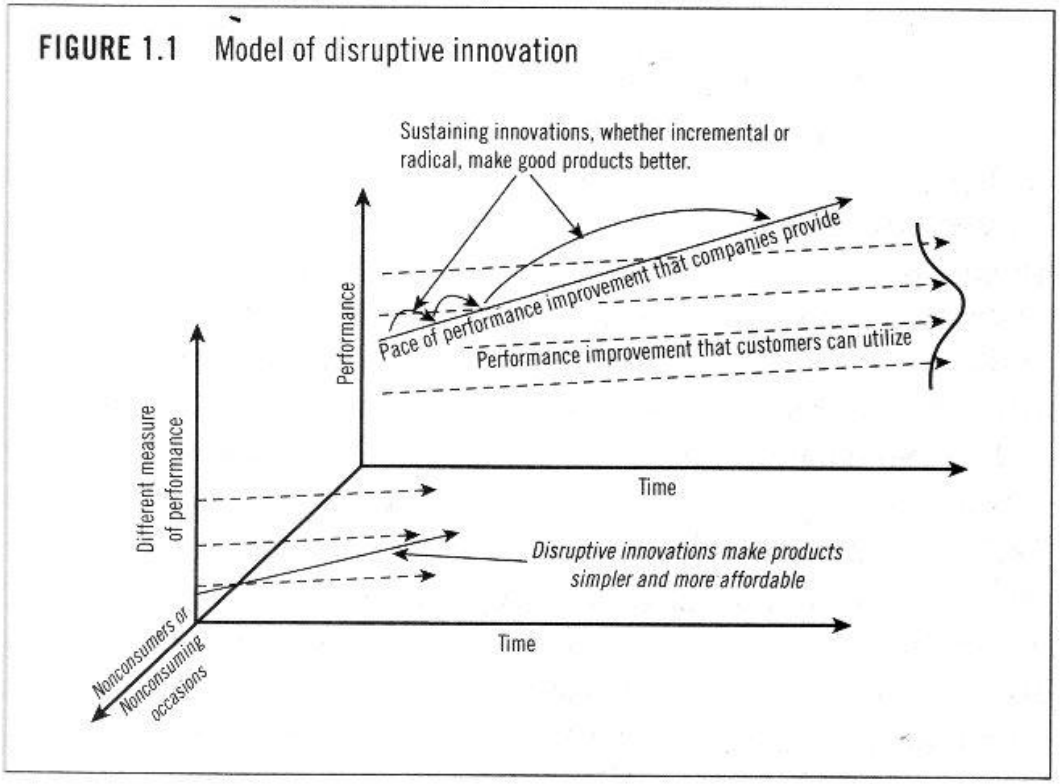
- Superstar of entrepreneurship
- Hardest to manage, highest failure rate
- Longest lead time: Often 25-30 years between discovery and commercialization
  - Structure of DNA: 1953 First genetically engineered drug: 1986
  - New discoveries may reply ñconvergenceòof info:
    - penicillin=microbiology+fermentation technology
    - iPods=miniaturized electronics + easy to download tunes
    - Minute Clinics=precision diagnostics + effective therapies
- Science and technology innovation windows close very rapidly
  - Shakeouts are common after window closes

Christensen further defines disruptive technology and innovation

- A disruptive innovation makes things simpler and more affordable
- Disruptive technology allows innovation to occur

Christensen's Model of Innovation

FIGURE 1.1 Model of disruptive innovation



Product innovations are of two main types

- Sustaining innovation: A performance improvement in the established market
  - Usually the strength of the market leaders
- Disruptive innovation: NOT a breakthrough improvement
  - A simpler, more affordable use of technology
  - Does not appeal to original users, but creates new markets
  - Ex: Kodak cameras, Southwest Airlines, Google advertising, PCs

Successful disruptions can redefine industries

- May be fatal to incumbent leaders
  - ï Existing business strategy will not support the innovation
  - ï ñLargenessòmay prevent fast response to competitive threat
- New products/markets create their own ñnnovation cycleò

New products must be solutions for “jobs that need doing”

- Innovators think about ñunmet needsò
  - Benefits vs. features
  - ñThe customer rarely buys what the company thinks is selling himòï Peter Drucker
- Successful entrepreneurs understand this concept, and look for the opportunities to meet unmet needs
  - This can be in a new company or within an existing company

Three levels of “job” architecture

1. Basic root need that needs solving or fixing
2. What functional, social and emotional experiences need satisfying in solving or fixing the need
3. The specific characteristics, features, and technologies that comprise the product or process and how it is sold and used

- ñJobsòexist independently of markets or products

An example of a “job” from medicine

- Cancer chemotherapy causes side effects
- The side effects often delay therapy and may reduce therapy effectiveness
- The ñjobòwas the need to give chemotherapy on schedule
- One solution: Neupogen

How was this disruptive?

- Was an innovation that made chemotherapy delivery simpler
  - Was ñmore affordableòby reducing the costs of more expensive side effects (e.g., hospitalization)
  - Created a new market for ñhematologic supportò products
- Product has continued to have several ñsustaining innovationsò
  - Prefilled syringes
  - Long-acting version

Disruptions are more impactful when ACROSS business models

- Examples: Ford, eBay, TurboTax
- Examples in Medicine
  - Minute Clinics
  - Specialty hospitals
    - Heart disease
    - Lung disease
    - Eye surgery

The next wave in medicine

- Moving more from ñintuitiveò medicine (solution shop emphasis) to ñprecisionò medicine (value-added process)
- Using more facilitated networks to manage chronic disease
- Entrepreneurs will look for ways to use product and process innovations to make medicine ñsimpler and more affordableò

Next Week

- Test answer sheets due at beginning of class
- Read Chapter 3 of Christensen
- Reminder: Project Teams due October 27 (no more than 5 per team)