#### From Here to There

MIT SDM / Sloan School

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#### Why I Went to MIT

- Knew I wanted to be a researcher
- Dropped out of HS to go to MIT
- Graduate Assistantship while undergrad (not UROP)
- Graduated in 3.5 years (with semester off)
- And then did research...
- TI LISP Machine & DSP story
- And then...

#### Based From Whence I Speak

- Products company in valley "Out of Research" story
- Deliver, without working (get others to do work)
- Killed new work; assigned to lead release process
- Offered to do new product
  - Taken up MIT research spot: next transistor?
  - Get over it
  - -> Transformed company from HW to SW revenues

#### Life Overseas

- Got over it:
  - Established European R&D Center for silicon valley small-cap public company
  - MBA, Katholieke Universiteit Leuven
  - VP trajectory: commercial experience
  - Major account manager (carry bag & quota)
- Return to the US
  - ASK: what could I do in DC area, skill set in
    - High performance computing
    - Large database processing
    - Signal processing
    - Passable ability to speak 3 foreign languages
  - Unclearable
- Discovered another industry in DC: telecom

#### Communications Industry

- Ran Supercomputer project for MCI
  - Head hunter doing job: focused on skills, not buzz words
  - Importance of hiring smart people, not paper experience
- Engineering Director for European telecommunications carrier, CWC
  - Burned by hiring Sybase expert instead of database expert
  - Side story: rescuing the Russians

## Launch for string of exits

- Turned around TTCi
  - Story of the Broken Play
  - Personals -> Business Service -> Hardware
- Sold TTCi to Centigram
  - Perils of 100% customer
    - Why we took risk
  - Should have bought them!
- Sold Centigram to ADC

#### Second Pass

- Left ADC to start SnowShore
- Sold SnowShore to Brooktrout
- Sold Brooktrout to Cantata
- Left Cantata
  - Story of importance of accountability
  - Sometimes you just have to leave

## Go for Big Company

- Decided to trade equity for current cash income
  - More than one way to make money
- Deputy CTO and then AGM for silicon valley mid-cap public company, BEA: development in Beijing, Stockholm, San Jose, San Francisco
- Sold to Oracle
  - Who is going to buy Oracle?

## Big versus Small

Reiterate 9 Shortstops, or Baseball vs. Soccer vs. Football

## Large company: figment of stability

- TI, CWC, MCI, (BEA @ 4200 not as big)
- Last a while, but Hurdle Rate story
- SOX impact: costs of being officer, legal implications of what you say
- Politics as important as project
- ASK: What am I describing:
  - 5-year plans
  - Planned production targets
  - Lifetime care for the working class
    - Medical
    - Education
    - Housing
  - (GM, not Soviet Union!)

## Small company: flexibility at a price

- Personal approach: totally open
- Only 18 months of cash, but you know it and have direct impact
- Screw-ups beyond control have more impact than just not getting a promotion!
- TTCi story: only lost 1 person

#### Working: Value?

- What makes you indispensible?
- What special talents do you bring?
- For me
  - Deep technical knowledge, proven
  - Engineering management skills, proven
  - Commercial skills
  - General management skills, proven
- For you: Probably something different
- End of the day: a Brand
  - How to build a brand?

#### Standards Work: Brand

- Leadership & participation in global standards bodies
- VP Asia for global industry forum
- Advisor to Japanese industry forum
- Chairman of global industry forum (based in Stockholm)
- Vice Chair Committee on Communications Policy
  - Go lobby!

## Business community work

- MIT VMS
  - Exposure to new ideas
  - Connecting with next generation of companies
- IEEE Mentor
- ACM Mentor
  - Far flung,
    - Negotiating going into industry versus academia
    - helping PSU student create a company and finish her PhD

# After All, Engineering is a Fungible Commodity

- Input to engineering is an intangible
  - Functional specification
  - Design specification
  - Protocol / standard
  - Ideas, not things
  - Often 100% digital

## All Engineering Global?

- For the most part, yes
- Not for highly proprietary technologies
  - One or two firms means local, by definition
  - Handful of experts, usually from university, research institute, or corporate labs
- Even military engineering is now global

# Success Factors for Engineers & Managers

- Cultural understanding
- Distributed teams
- International business norms
- International versus domestic standards

#### **Distributed Teams**

- Domestic team working with off-shore team
- You may be the off-shore team
- You may be managing the off-shore team
- Key success factors
  - Well-defined tasks
  - Some level of face-to-face, interpersonal relationships
  - Time zones help or hurt

#### Think Of...

- What makes you indispensible?
- What special talents do you bring?
- Can you communicate?
  - English is the *lingua Franca*
  - Local interaction in local language
- "On base" versus "On the economy"

#### **Guaranteed No-Fail**

- START YOUR OWN COMPANY
- REITERATE: MIT for me as broken play
  - Who knew I would not be doing research?
  - Who knew I would live in Europe?
  - Who knew I would come home?
  - Who knew I would do telecom?
  - Who knew I would get my PhD?
  - Who knew I would be standing here before you?
- Set a direction, and follow where it takes you

## **Thanks and Questions**