


Knowledge Exchange
bumps in the tried and tested roads

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Knowledge Exchange

- HKU defines KE as “engaging, for mutual benefit, with **business, government or the public** to generate, acquire, apply and make accessible the knowledge needed to enhance material, human, social, cultural and environmental well-being.”
- My focus will be on “business.”



Tried and Tested Roads

- New Businesses
 - Facilitating startups
- Established Companies
 - Licensing technology
 - Research funding
 - On site industrial laboratories
 - Consortia



Universities are truly a tried and tested source for new businesses!


“companies started by M.I.T.’ s graduates, faculty and staff generate annual world sales of \$2 trillion.”

NY Times, 6/7/11



Landscape is Changing

- Decade ending 12/31/10
 - Average annual **venture** return = -2%
 - Take away Facebook, Twitter and Zynga, and it's < -4%
- Especially dismal record for ventures based on **hard sciences**
 - recent example: Solyndra
- Venture funding has shifted to private equity



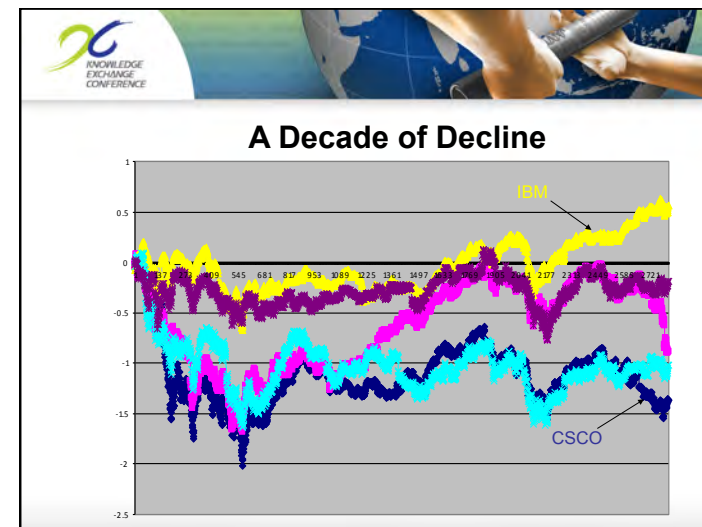
Causes for Decline


- No recent breakthroughs
 - Boom in startups followed breakthroughs, e.g., integrated circuits
 - The last breakthrough was the Internet
- Wide gap between discovery and commercialization
 - Especially true for the hard sciences
- Excessive competition



Elsewhere in the Tech World

- Tech Stocks in Dow Jones (2000-2011)
 - Cisco, HP, IBM, Intel, Microsoft: average return = -5% per year
 - JNJ, MRK and PFE (-5.7% per year)
- In 2000 Cisco was the largest company in the world by market cap
 - Market cap now down 80%





Causes for Decline

- Technology is a poor weapon for defense
 - Obsolescence (e.g., Kodak)
 - Commoditization (Blackberry)
 - Self-commoditization (HP)
- IBM prospered by becoming a service business
 - Not a solution for everyone




Successful Industrial Companies

- High barriers to entry
 - Technology important, but not primary
 - Reliance on infrastructure, complexity, and execution
- Focus on strengths
 - Maintaining high value added
 - Predictability and sustainability
 - Many have exited high-tech businesses



Technology Innovation in Established Companies

- From within
 - Incremental innovation, not enough
 - Disruptive innovation, rarely achieved
- From without (open innovation)
 - Acquisition (success varies widely)
 - Universities
 - Consortia and alliances
 - Portals for spin-in



Example of Open Innovation (Siemens)

- Technology to Business (TTB)
 - Find match between new technology ideas and Siemens' needs and opportunities
 - Close gap through development
- Centers for Knowledge Interchange (TKI)
 - Berkeley and MIT in the US
 - Special long term relationship




Repairing the Tried and Tested Roads

- Combine forces
 - to achieve scale, scope and visibility
 - be inclusive
- Close gap
 - between discovery and commercialization
- Open innovation
 - a major opportunity
 - must be customer oriented



Possible Near Term Actions

- Develop strategic plan
 - need specific goals and measurable objectives
- Create “germination center”
 - not incubation
 - leverage ASTRI?
- Stage “Open Innovation Fair”
 - identify and outreach to potential “customers”



A Last Word

- HK is a 90+% service economy
- KE for a service economy?
- How to export services
 - XYZ tourism (bring customers here)
 - provide high end outsourcing
 - productize service