

Innovation

Innovation Power almost equals National Competitiveness

US Initiatives and Policies, eg, Innovate America

European Initiatives and Policies, eg, Lisbon Strategy, Aho Report

Japan Initiatives and Policies, eg, Innovation25

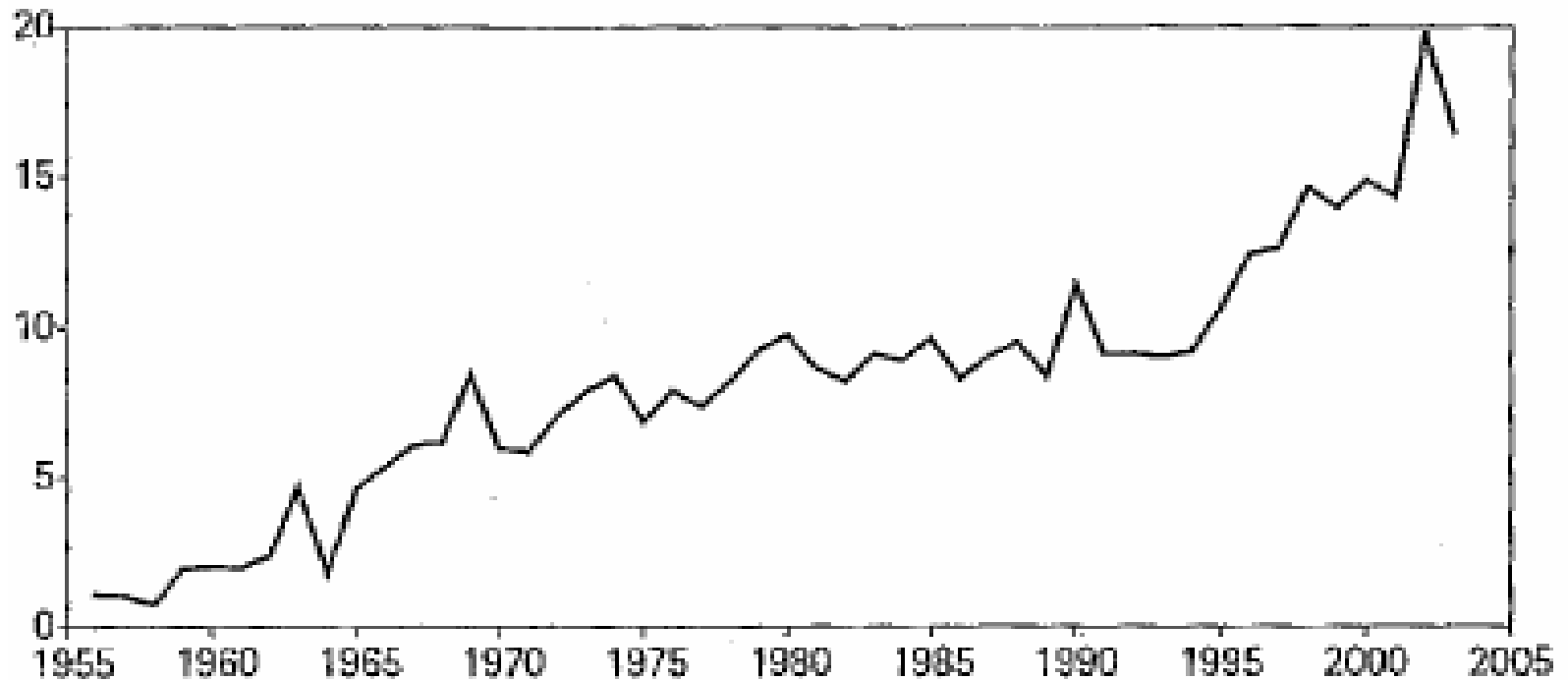
‘Innovation’ is everywhere!

‘An Innovation Mantra’ per K Kurokawa,
Science, April 13, 2007

Innovation is 'Change', thus is against 'Stability'

Scholarly Articles with “Innovation” in the title 1955-2004

Per 10,000 social science
articles



Source: ISI Web of Knowledge, Social Science Citation Index (SSCI)

Technological Revolution and Techno-Economic Paradigm

C Freeman and C Perez

- First: Industrial Revolution; UK, 1771-1830
- Second: Age of Steam and Railway; UK, 1829-1873
- Third: Age of Steel, Electricity, and Heavy Engineering;
US and Germany to Euro, 1875-1918
- Fourth: Age of Oil, Automobiles and Mass Production;
US to Euro, 1908-1974
- Fifth: Age of Information and Telecommunication;
US to Euro and Asia, 1971-20??

Fourth: Age of Oil, Automobiles and Mass Production: 1908-1974

- Mass production, mass markets, consumerism
 - Economies of scales (product and market volume)/
horizontal integration
 - Standardization of products
 - Energy intensity (mostly oil-based)
 - Synthetic materials (dyes, plastics, medicines)

 - Functional specialization/hierarchical pyramids
 - Centralization/ metropolitan centers-suburbanization
 - National powers, Int'l agreements and confrontation
- Linear Innovation, Supply-sides dominate
- National, Bi-lateral, and International
- Human resource development

Innovators and Innovations

- Toyota Ki-ichiro TOYOTA
 - Honda So-ichiro HONDA
 - Ibuka and Morita SONY
 - Ogura Masao Kuroneko Yamato
-
- **Innovative people:** ones with 'phronesis' (Aristotle)
Aspiration for true value, just and common good:
 Thus, driven with passion, courage and tenacity
Thus, often regarded as disruptors and destructors

Linear Innovation

Technological Revolution and Techno-Economic Paradigm

- First: Industrial Revolution; UK, 1771-1830
- Second: Age of Steam and Railway; UK, 1829-1873
- Third: Age of Steel, Electricity, and Heavy Engineering;
US and Germany to Euro, 1875-1918
- Fourth: Age of Oil, Automobiles and Mass Production;
US to Euro, 1908-1974
- Fifth: Age of Information and Telecommunication;
US to Euro and Asia, 1971-20??

CONSTRAINTS!!= sustainability

Constraints

- Climate change/climate crisis
- Environment deterioration, pollution
- Water and foods and other natural resources
- Perception by the general public of wide North-South disparity
 - Sense of inequity, frustration, violence, identity, etc,
- Growing human population: 50% in last 25 years
- Is Our Society Sustainable?

Innovators and Innovations

- Internet:
www (92); Netscape, Yahoo, Amazon (all 94); Windows95;
Linux, Google (97)
- Mobile phone in Japan and elsewhere, Blackberry?
-Nokia, Motorola, Samsung, Sony-Erickson
- Emails
- iPod to iPhone- what Apple sells?
- D/S, Wii- Nintendo created a new market, SONY
- Technology? Regulation? Idea? Social infrastructure?
- Demand-driven Innovation!

Age of Information and Telecommunication

1971-20??

- Information-intensity (microelectronics-based ICT)
- Decentralized and integration / network structures
- Knowledge as capital / intangible value added

- Heterogeneity, diversity, adaptability
- Segmentation of markets / proliferation of niches/ branding
- Economies of scope and specialization combined with scale

- Globalization/ interaction between the global and the local
- Inward and outward cooperation/ power of clusters
- Instant contact and actions/ instant global communications

Innovation in Globalized World

- Invest on Human 'Capital' vs Human 'Resource'
- Nurture Entrepreneurship
- Heterogeneity, Diversity, Adaptability

- Focus on the Strength and the Core competence
- Recognize the Weakness- and Collaborate

- Speed is the Essence of the Game
- Think locally, Act globally

International to Global !

Technological Revolution and Techno-Economic Paradigm

- First: Industrial Revolution, UK, 1769-1830
- Second: Age of Steam and Railway, UK, 1829-1873
- Third: Age of Steel, Electricity, and Heavy Engineering, US and Germany to Euro, 1875-1918
- Fourth: Age of Oil, Automobiles and Mass Production, US to Euro, 1908-1974
- Fifth: Age of Information and Telecommunication, US to Euro and Asia, 1971-20??
- Sixth: **Biotech**, Nanotechnology?

CONSTRAINTS!

The Economist Intelligence Unit, 2007

Personalization

Collaboration

Innovation --Japan is #1

INSEAD report, in press,

Innovation index- Japan is #4

Key concepts and key words

1. 'National, International' to 'Global'
2. 'Human resource' to 'Human capital'
3. 'Think globally, act locally'
to 'Think locally, act globally'
4. 'Social entrepreneurship and Wikinomics'

Millennium Development Goals (MDGs)

8 goals

- Goal 1 : Eradicate Extreme Poverty and Hunger
- Goal 2 : Achieve Universal Primary Education
- Goal 3 : Promote Gender Equality and Empower Women
- Goal 4 : Reduce Child Mortality
- Goal 5 : Improve Maternal Health
- Goal 6 : Combat HIV / AIDS, Malaria and Other Diseases
- Goal 7 : Ensure Environmental Sustainability
- Goal 8 : Develop a Global Partnership for Development

- you can't connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future. You have to trust in something —
- You've got to find what you love. Don't settle.
- Death is Life's change agent.

=> **STAY HUNGRY, STAY FOOLISH!**

-Steve Jobs, CEO Apple & Pixar Animation

At Stanford University, Commencement in 2005