Innovation, Technology & Sustainable Development



Illustration from Richard Vanderhurst

Nicholas Yang

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Connecting I&T to SD (1)

Innovation & Technology (I&T) can lead to

Economic Development, i.e. GDP growth and quality jobs
Social Improvement, e.g. better living & lifestyle, less social problems

KPIs should be pre-defined, simple & straight forward, and refined over time.
For example, for KPI in I&T knowledge transfer, MIT has 125,000 living alumni today, jointly holding 26,000 patents, generating 3.3 million jobs with US$3 trillion turnover.

A sustainable innovation eco-system is needed to keep the flow of I&T.

- Deal flow
- Infrastructure & funding
- Regeneration & recycling of talents
- Culture & network

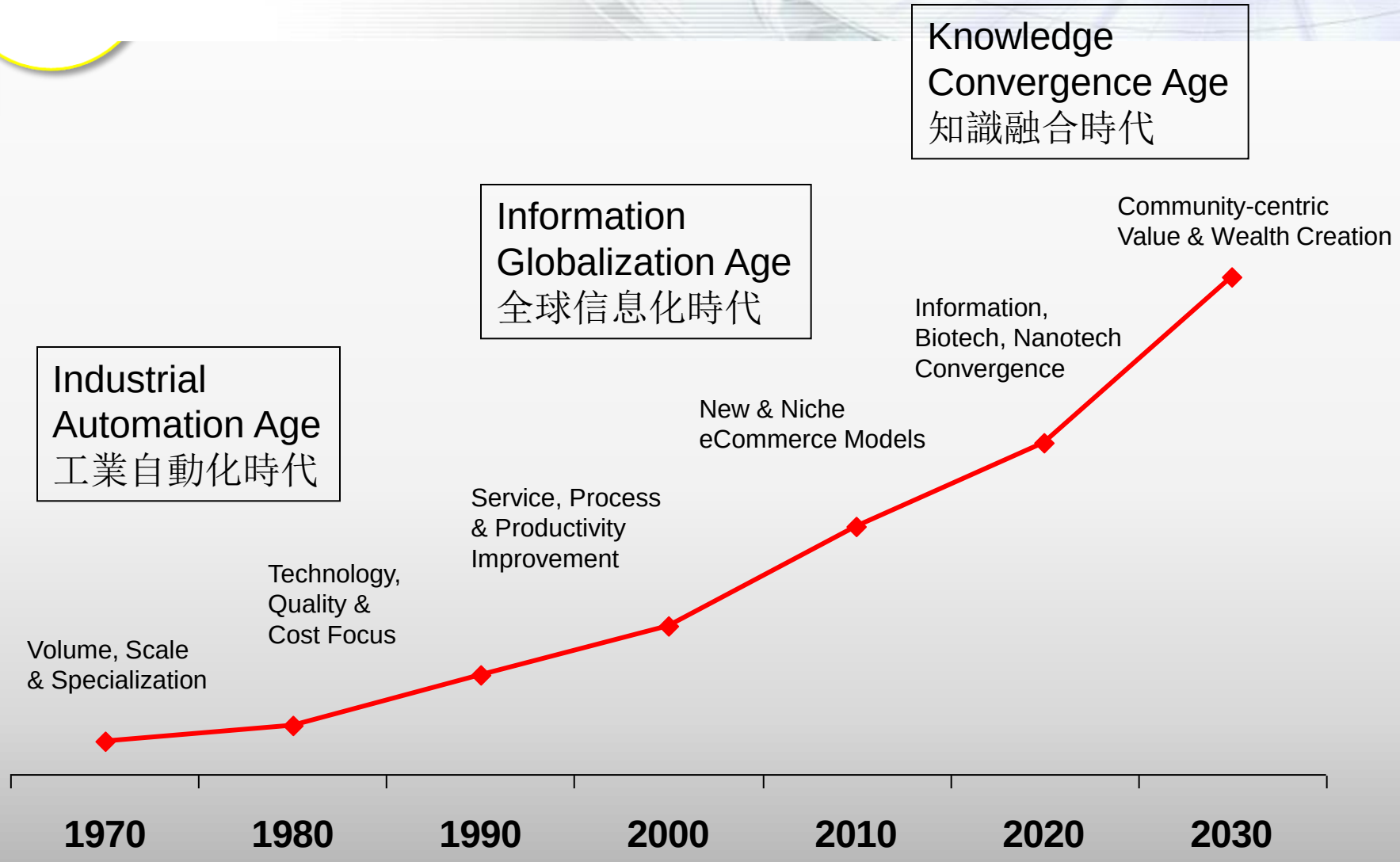
Connecting I&T to SD (2)

Sustainable Development (SD) is critical to ensure fulfilling the needs of the present would not compromise the ability of future generations to meet their own needs. This can only be achieved via shared values and collective efforts. Key SD issues are:

Refining and managing growth: meeting essential human needs (jobs, food, energy, water, and sanitation), equity (poverty), sustainable population
Conserving and enhancing the resource base: efficient use and productivity, depletion and alternate resource
Reorienting technology and managing risk: enhancing capacity for technological innovation, managing the negatives and risks of technology
Merging economic and ecological considerations in decision making: climate change, pollution

Innovation and technology can bring both positive and negative effects.

Global Economic Development Cycles
世界的經濟週期的演變



What I learned recently from Harvard & MIT?

MIT's definition for innovation: **Taking ideas from Conception to Impact**

Dramatic and eye-opening changes at MIT over the past 5 years
"Media" now invisible or immersed into the background at MIT Media Lab, (e.g. social network platform on hydroponic farming)
Harvard now world's best in stem cell research, with lots of private funding

HSCI is a consortium of 11 hospitals and 11 departments *
GIN (Global Innovation Nodes) is a collaboration of MIT depts and other U's

Sharing/Collaboration and **collective excellence** is a key driver to success
Inter-disciplinary and **mission-oriented** approach is another key driver
Consensus on good/bad ideas, and **focus** on the important issues
Standards & platform are the ultimate goals

An Academic Experiment – How to Fulfill the Promise of a New Scientific Domain?



Hong Kong 1.0, 2.0 & 3.0

1967: Big Riot in Hong Kong due to Cultural Revolution spillover

1970's & 1980's Hong Kong became one of Asia's Four Little Dragons (Hong Kong 1.0 Wave)

1983: China began economic reform; Hong Kong moved manufacturing to PRD

1990's Hong Kong transformed to service economy successfully (Hong Kong 2.0 Wave)

2000: China moving toward high-end manufacturing and service economy

20xx's Hong Kong must transform to knowledge-based economy (Hong Kong 3.0 Wave!)

Median Age around the world

China	35
Hong Kong	43
Nepal	21
Uganda	15
United States	37



Hong Kong's GDP

GDP(PPP) per capita, ranked #10 in the world in 2014
vs Mainland China at #90 in the world

Financial services	(16% of HK GDP)
Trading and logistics	(24%)
Tourism	(5%)
Professional services & other producer services	(12%)

HK GDP as % of China's GDP

1997	19%
2014	2.6%
2025 (est)	<1%



Hong Kong can and must move forward!

HK is technology savvy and can innovate (proven track record)
HK needs a sustainable innovation eco-system (lacking)
HK is good in entrepreneurship & intrapreneurship (rejuvenation)

Think long term, not just on short-term benefits
Encourage business model innovation, on top of technology innovation
Think big, but start small, and do it very well before scaling (0→1→100)
Unleash the business opportunities of its individual excellence

Metropolitan Lab: Big Data, eHealth, active aging, crowd-sourced solution
Leveraging on Mainland: "Belt and Road", FinTech, next Internet standard
Nano technology: water desalination and purification, food delivery and safety/recycling

Thank you!