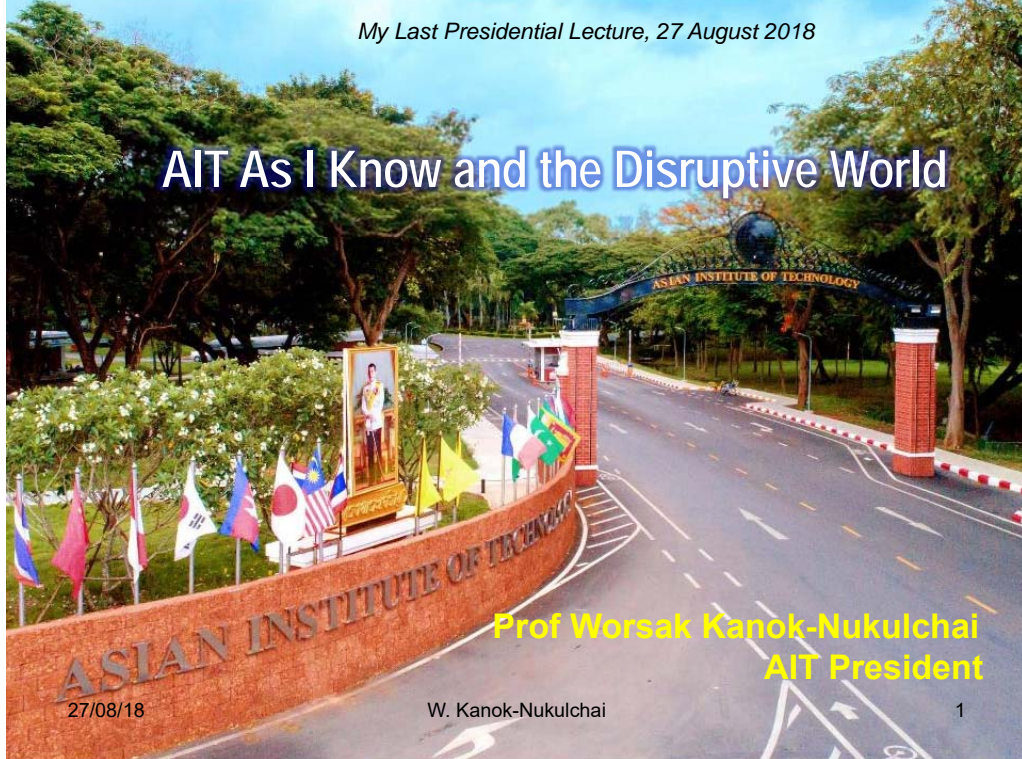


AIT As I Know and the Disruptive World



Prof Worsak Kanok-Nukulchai
AIT President

27/08/18

W. Kanok-Nukulchai

1

THE PRECURSOR OF AIT



The “SEATO Graduate School of Engineering (1959-1967)” was established by the Royal Decree at the campus of Chulalongkorn University, managed by a Board of Management appointed by the SEATO Council.

SEATO GRADUATE SCHOOL OF ENGINEERING
บัณฑิตวิทยาลัยวิศวกรรมศาสตร์ อ.ป.อ.



“Some critics believed the Pote Sarasin and the USA dream was simply an experiment that could not succeed and the new school would become a part of Chulalongkorn University. There was no precedent for such an institute anywhere in the world.”

H.E. Mr. Pote Sarasin, the first SEATO Secretary General, with AIT President Milton E. Bender.

W. Kanok-Nukulchai

3

STATUS CHANGE OF AIT IN 1967 – WHY?



“Because of the ambiguous legal status and its affiliation with SEATO, it was not possible to broaden the financial base and obtain contributions from other sources.”

(President Milton E. Bender in his Report to the Board of Trustees July 9 1969)

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W. Kanok-Nukulchai



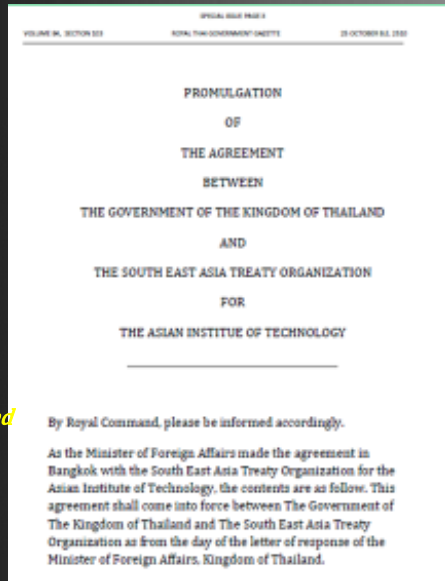
“Extensive contacts have been made with a great many potential donors including countries, foundations, UN organizations, and individuals.”

4

SEATO RELEASED CONTROL OF ITS MOST SUCCESSFUL CULTURAL PROJECT.



*Dr. Thanat Khoman
Foreign Minister of Thailand*



*Lt. Gen. Jesus Vargus
SEATO Secretary General*

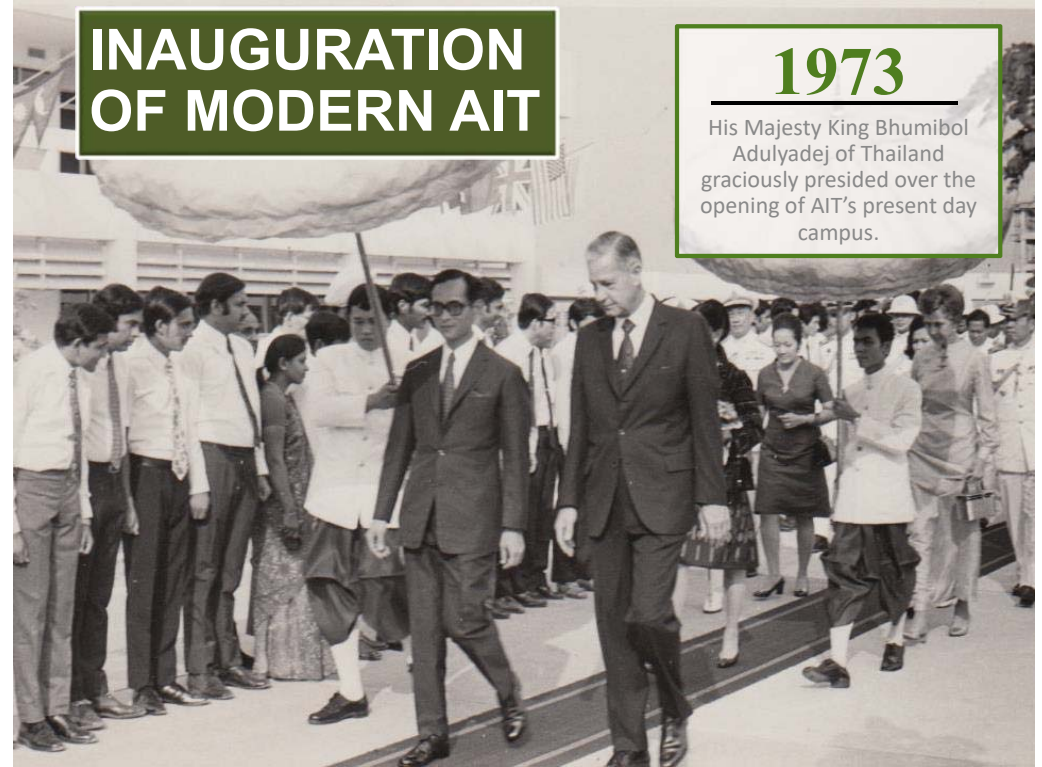
THE HEADQUARTERS AGREEMENT

25 October 1967

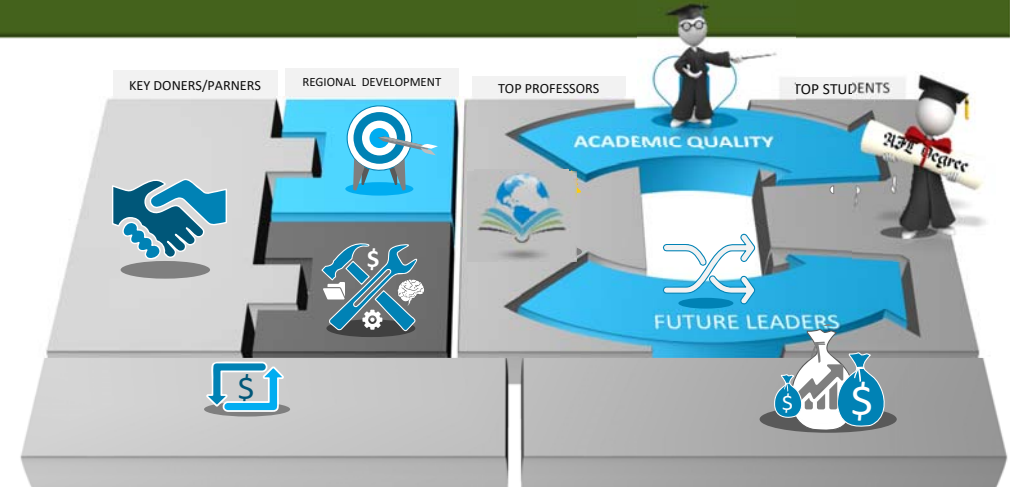
INAUGURATION OF MODERN AIT

1973

His Majesty King Bhumibol Adulyadej of Thailand graciously presided over the opening of AIT's present day campus.



THE AIT'S DONOR-DRIVEN BUSINESS MODEL



2 KEY FACTORS FOR ITS SUCCESS IN THE GOLDEN DAYS

- (1) Academic Quality (Driven by World-Known Seconded Faculty)
- (2) 'Cream of the Crop' Students (Driven by Generous Scholarships by Donors)



AIT Presidents : Top – Milton. E. Bender, Jr. (1963-1973, 1975-77), Harold E. Hoelscher (1973-1975), and Robert B. Banks (1977-83). Bottom – Alastair M. North (1983-1996), Roger G.H. Downer (1996-98)



AIT Presidents : Top – Charas Suwanwela (1998-1999), J.L. Armand (1999-2004), and Mario Tabucanon (2005). Bottom – Said Irandoust (2005-2013), and Worsak Kanok-Nukulchai (2013-present)

PAST AND PRESENT AIT PRESIDENTS

DONOR-DRIVEN MODEL – THE CHALLENGE



“If regional development continues to be the mission of AIT, the better we do our job, the sooner we will be out of job.”

*Dr. Stephen Ogunlana
Former Professor of Construction Engineering
Asian Institute of Technology*

W. Kanok-Nukulchai

9

Two critical challenges due to changes in world geopolitical landscape:

- (1) *Exhaustion in the traditional ‘development funds’, to provide scholarships to top-class students.*
- (2) *Lack resources to compete with national full-fledge universities for world-class faculty and students.*



10

STATUS-CHANGE ATTEMPT IN 2012 – A FALLECY



The clause of “mandatory financial contribution” in the original reason for the new Charter was finally removed from the draft and replaced by “voluntary contribution”, which did not carry the original spirit proposed by the host country, Thailand.

(Extracts from promotional material to support the AIT New Charter in 2010)

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W. Kanok-Nukulchai

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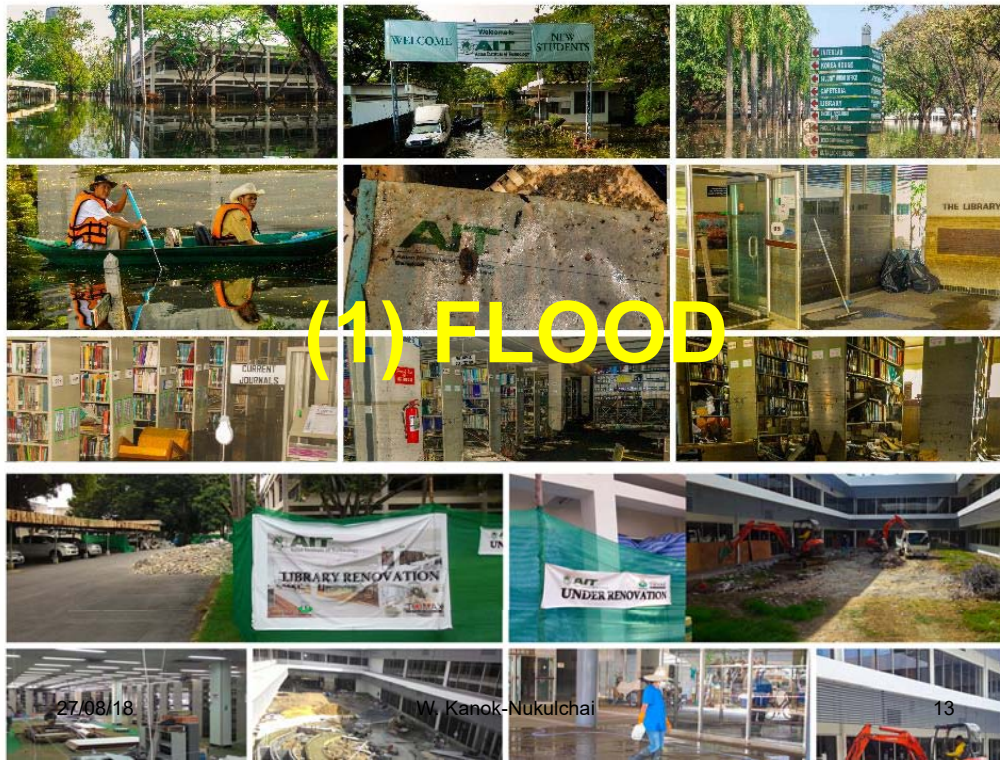
AIT CRISIS 2010-2013



27/08/18

W. Kanok-Nukulchai

12



(1) FLOOD



(2) LOSS OF PUBLIC TRUST

NEWS > POLITICS

AIT trustees to re-issue degrees to students

Institute's new charter not yet ratified by govt

14 Dec 2013 at 00:00 0 comments

NEWSPAPER SECTION: NEWS

The Asian Institute of Technology (AIT) is reviving its old board of trustees to issue degrees that are valid in Thailand, amid concerns that hasty changes to its charter disenfranchised students of their degrees.

Nopadol Gunavibool, deputy permanent secretary of the Foreign Ministry in his capacity as the chairman of the AIT's board of trustees, said yesterday the board had resolved to re-issue degrees to AIT students.

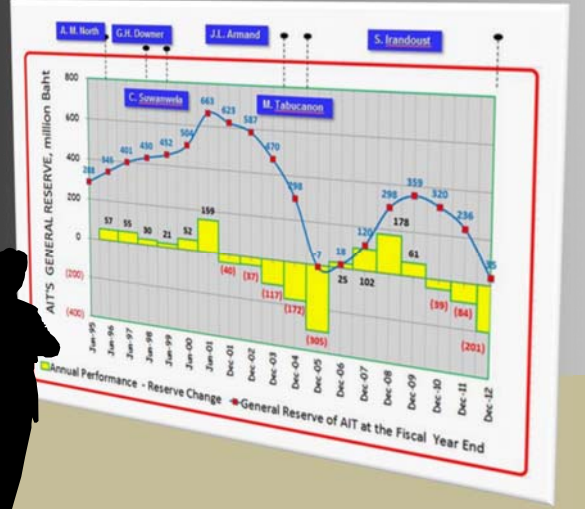
They would be conferred on students who graduated in this and previous academic years so their degrees would be acceptable under Thai law and to the Office of the Higher Education Commission and the Office of the Civil Service Commission.



AIT students stage rally fearing degrees invalid
national October 18, 2012 00:00
By 10.0007018 NA, NAAKAT/NAI

(3) FINANCIAL CRISIS

- 1 General Reserve (cash) plunged to 35 mB, not enough for 1 month salary.
- 2 RTG budgets were suspended.
- 3 Flooded buildings & infrastructure needed urgent rehabilitation.



(1) RECONFIRM INSTITUTE STATUS



AIT BOARD OF TRUSTEES RECONFIRMS AIT'S ORIGINAL CHARTER OF 1967



AIT remains its international status with no ownership, serving as a neutral platform for international cooperation with countries, foundations, UN organizations, and individuals, unlimitedly.

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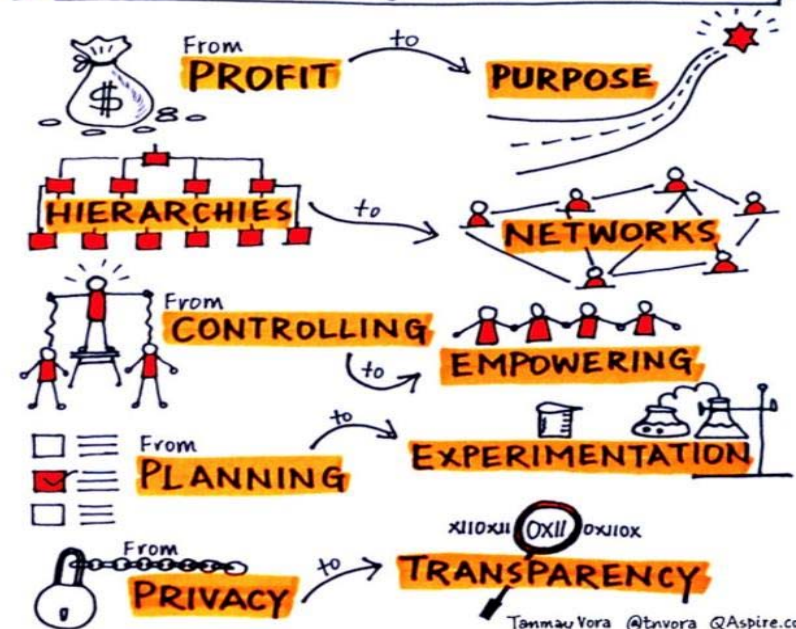
W. Kanok-Nukulchai

18

(2) IMPROVE MORALE



AARON SACHS AND ANUPAM KUNDU THOUGHTWORKS MINDSET SHIFTS FOR Organization Transformation



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W. Kanok-Nukulchai

Tanmay Vora @tnvora @Aspire.com

ENCOURAGE FACULTY TEAM WORK

SET – School of Engineering & Technology

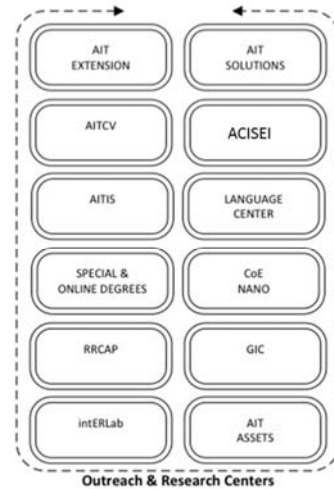
Departments

- CIE – Civil & Infrastructure Engineering
- ICT – Information & Communication Technologies
- ISE – Industrial Systems Engineering
- UG – Undergraduate

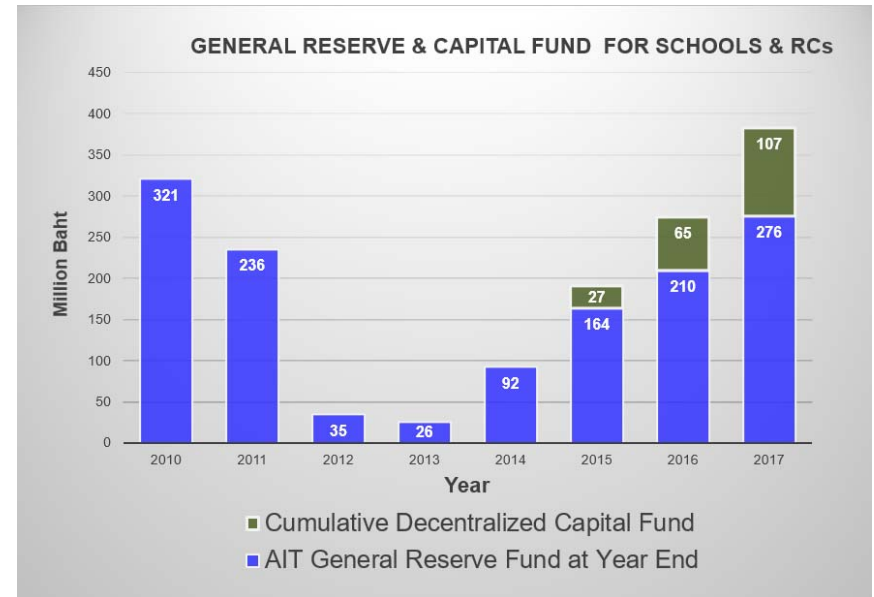
SERD – School of Environment, Resources & Development

Departments

- FAB – Food, Agriculture & Bioresources
- EECC – Energy, Environment & Climate Change
- DS – Development & Sustainability



DECENTRALIZATION OF GENERAL RESERVE



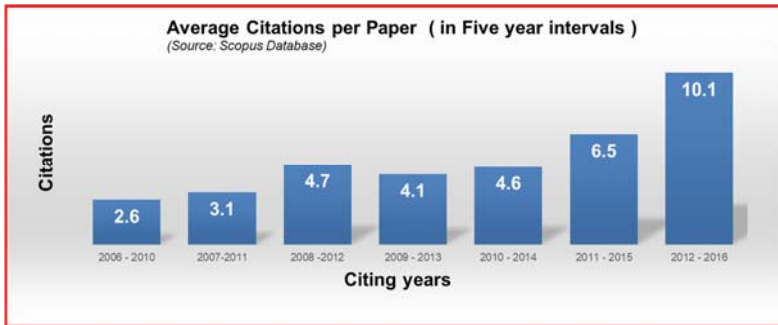
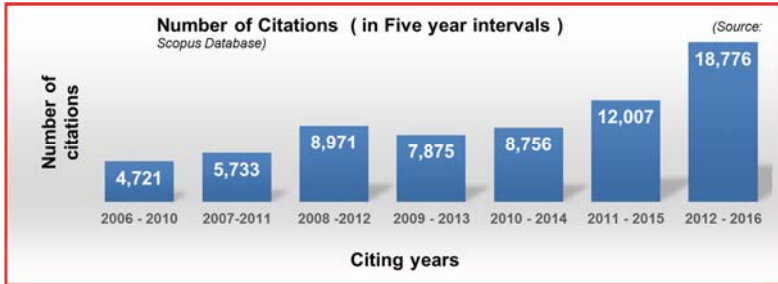
(3) SEEK GLOBAL BENCHMARK



Ranked World's Top International University In 2015, 2017, 2018

- (1) Teaching & Learning
- (2) Research
- (3) Knowledge Transfer
- (4) International Dimension
- (5) Regional Engagement

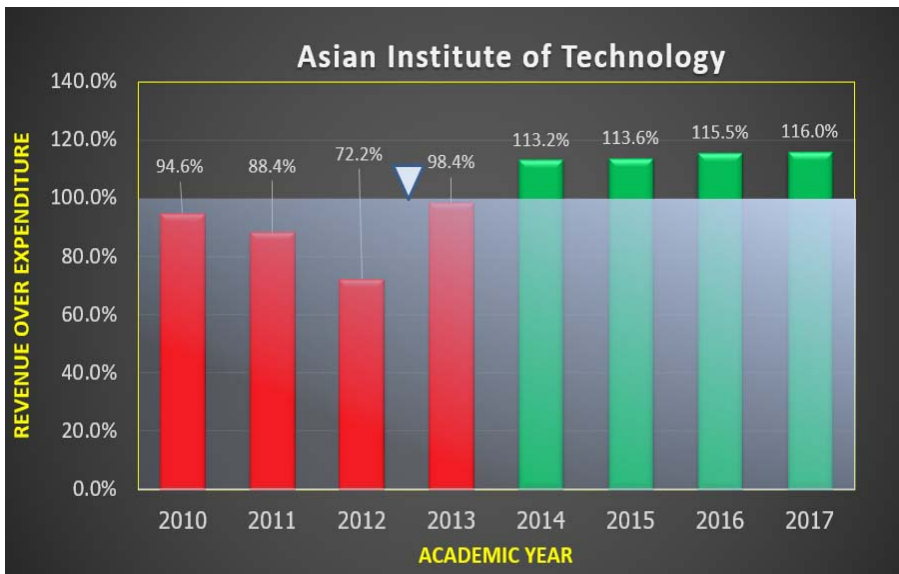
RESERCH QUALITY



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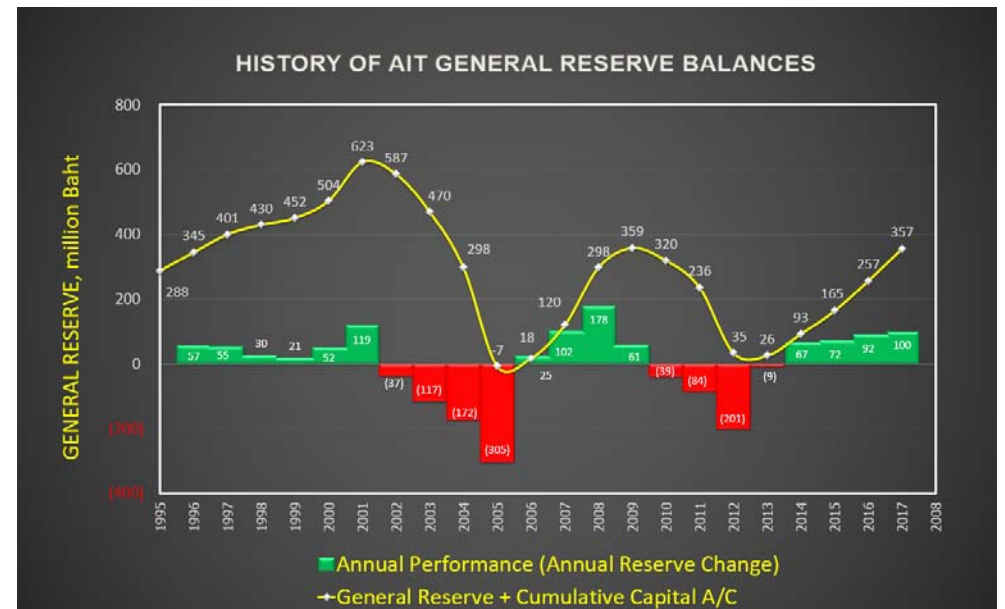
25



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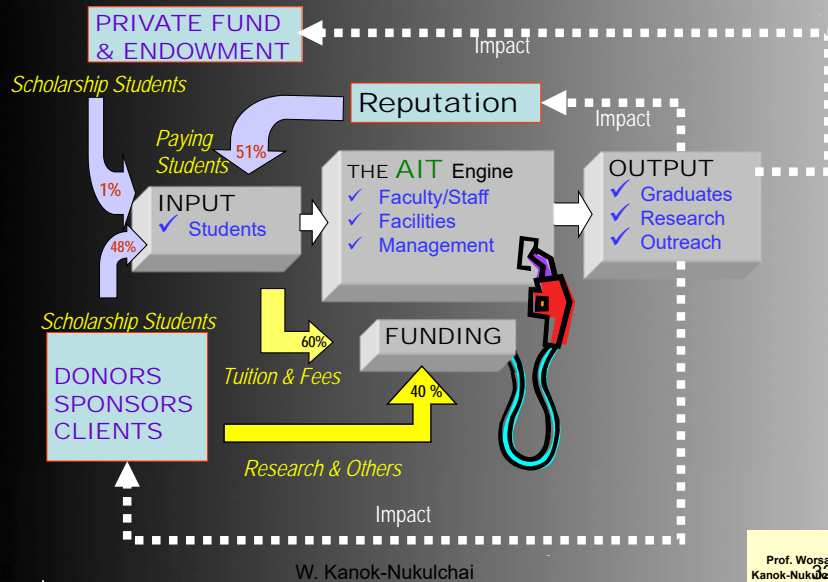
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(5) REINVENT CAMPUS ENVIRONMENT



THE AIT ENGINE (2018)



AIT GOES GLOBAL !

REGIONAL

GLOBAL

AIT 1959

AIT 2017

Key Role of AIT



Products of AIT



RESEARCH FOR MANKIND



GLOBAL CITIZENS

The Past has gone, the Present is secured, what about the Future of AIT?

Global Megatrends

- Issues that have to do with planet.
- How human choose to live on this planet (social, economic, political).



AIT's R&D for Mankind !

Technology Disruption

- Issues about the exponential growth of disruptive technology.
- How human prepare for future unknowns, to avoid becoming useless class.

AIT just start !

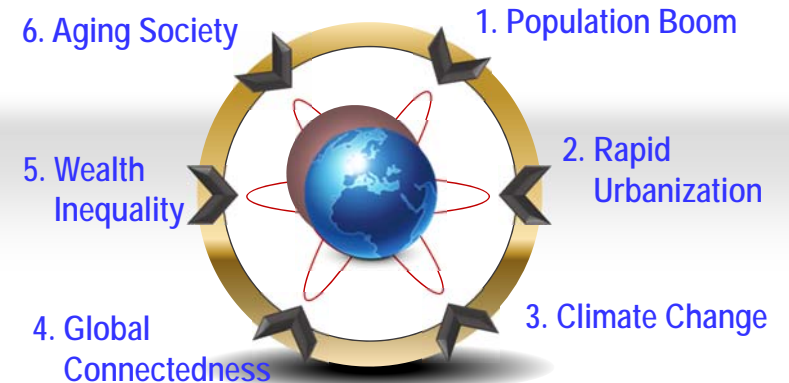
Global Megatrends

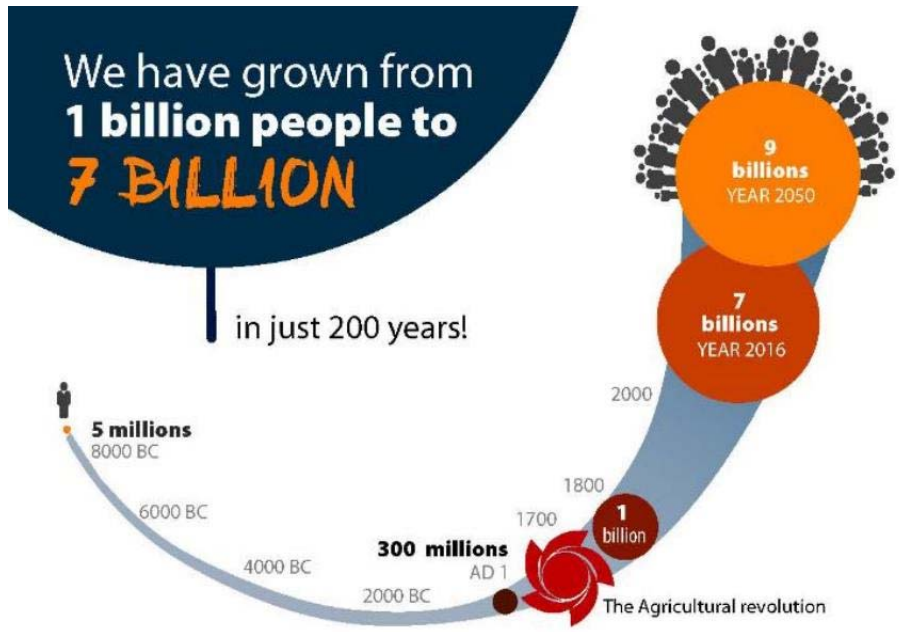
- Exponential Growth of Technology
- Technological Disruption
- Future of Higher Education (& AIT)



AIT GOES GLOBAL

GLOBAL MEGATRENDS





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W. Kanok-Nukulchai

(Credit photo: Anders Lindgren)



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W. Kanok-Nukulchai

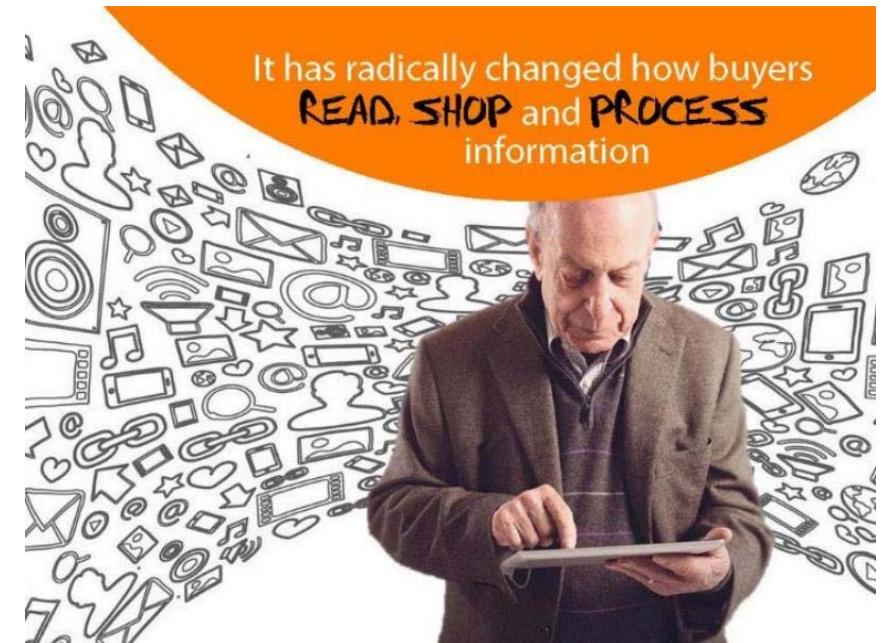
(Credit photo: Anders Lindgren)



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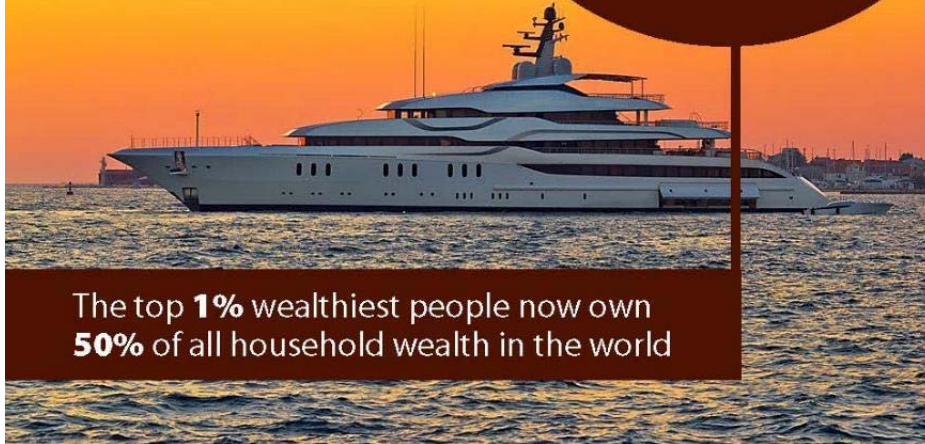
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(Credit photo: Anders Lindgren)

SOURCE: Credit Suisse and Oxfam

THE RICHEST of the rich are getting richer



The top **1%** wealthiest people now own **50%** of all household wealth in the world

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W. Kanok-Nukulchai

(Credit photo: Anders Lindgren)⁴²

SUPER-AGING SOCIETY ...



The ratio of Japanese population aged over 65 years reached 26% in 2015, and to rise to 40% by around 2060.

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https://en.wikipedia.org/wiki/Aging_of_Japan⁴³

Global Megatrends

Exponential Growth of Technology

Technological Disruption

Future of Higher Education (& AIT)



AIT GOES GLOBAL

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Name the **3 milestones in humankind history** that have significantly change the human lifestyle?

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THREE MILESTONES TO CIVILIZATION



The Digital Revolution

20th and 21st Centuries

The Industrial Revolution

18th and 19th Centuries

The Agricultural Revolution

16th and 17th Centuries

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Guess what might be
the 4th Revolution
that may completely
change the lifestyle
of humankind?

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FOUR MILESTONES IN HUMAN HISTORY



The A.I. Revolution

21st Century up

The Digital Revolution

20th and 21st Centuries

The Industrial Revolution

18th and 19th Centuries

The Agricultural Revolution

16th and 17th Centuries

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futureagenda



The Rise of Machines

The growth in the intelligence and capabilities of machines presents both a threat and an opportunity: Greater AI and automation free up time, but also threaten jobs - both low skilled and managerial / administrative roles.

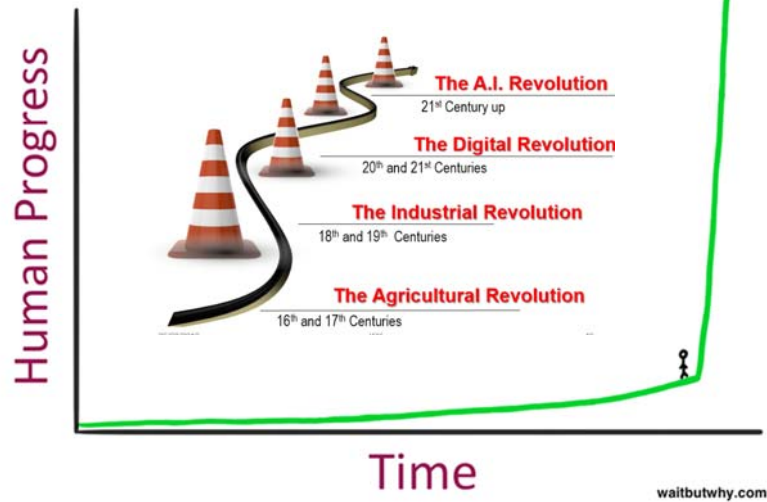
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“We are on the edge of change comparable to the rise of human life on Earth”. — Vernor Vinge

Singularity !

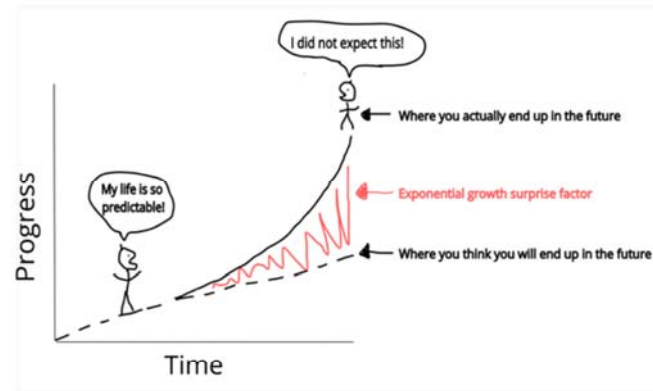


waitbutwhy.com

The AI Revolution: The Road to Superintelligence, 2015 By Tim Urban

<https://waitbutwhy.com/2015/01/artificial-intelligence-revolution-1.html>

50



QUOTE

“The reason that information technology grows exponentially is that we can use the latest technology to develop the next.”

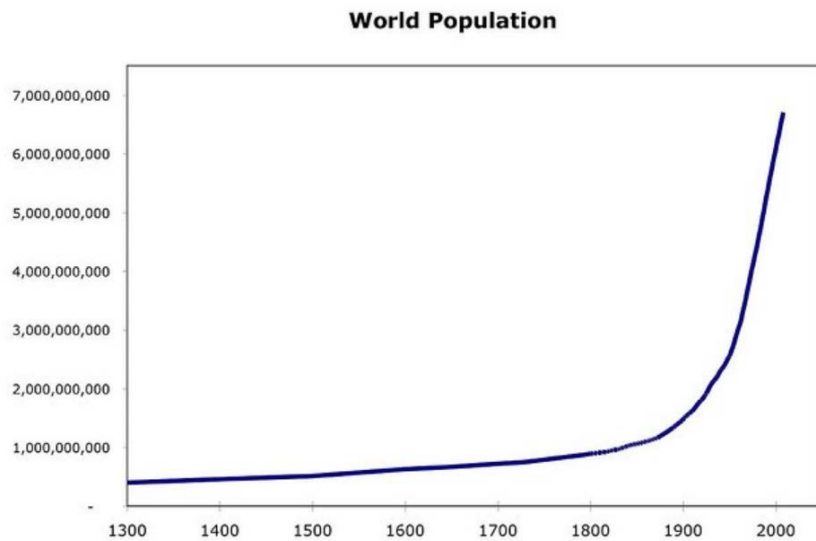


Dr. Ray Kurzweil, the Author of Best-Seller Book: “*The Singularity is Near*”

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Exponential Growth of World Population



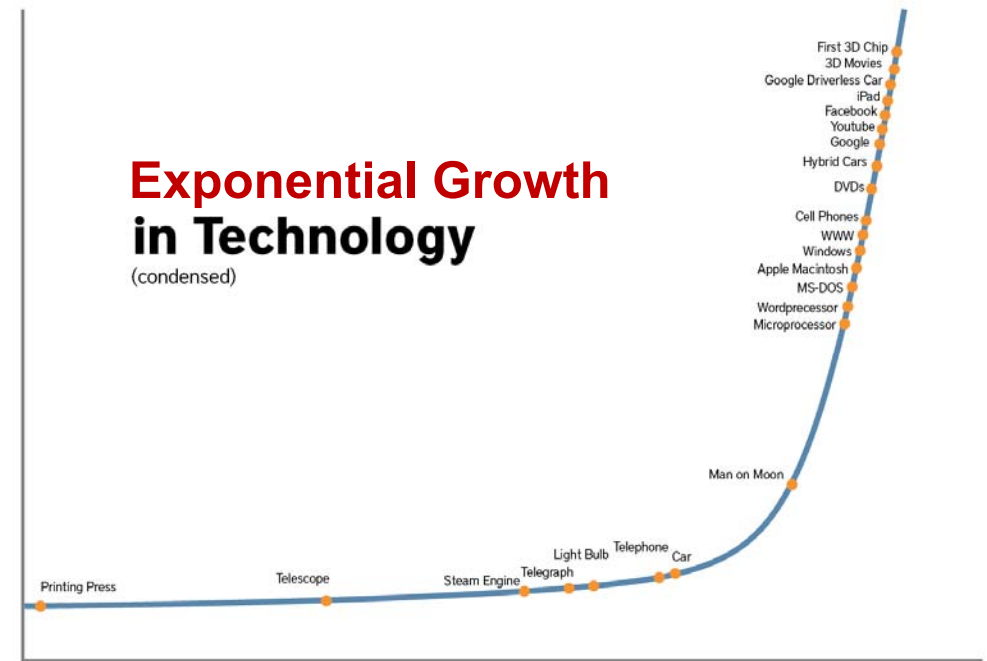
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Exponential Growth in Technology

(condensed)

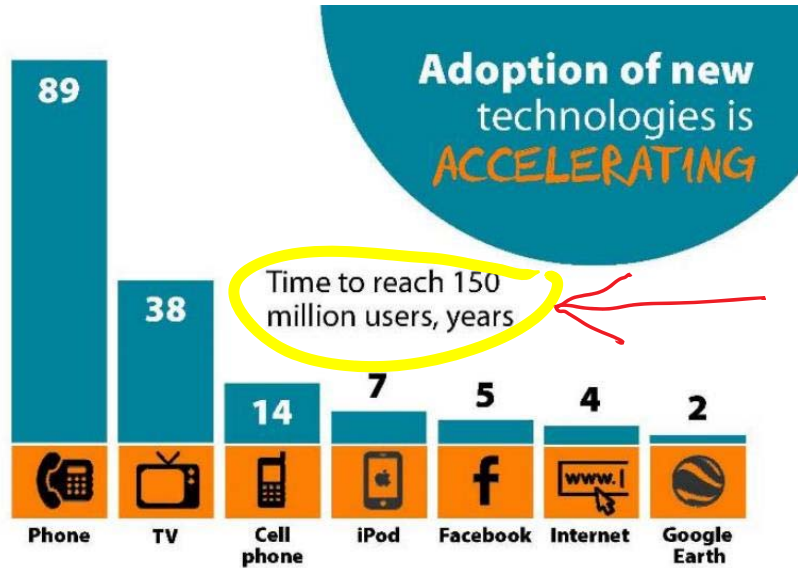


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(Credit photo: Anders Lindgren)



Source: The Magazine Imaging Notes. See also Ray Kurzweil's book The Singularity is Near and The Economist

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- Global Megatrends
- Exponential Growth of Technology
- ✓ Technological Disruption
- Future of Higher Education (& AIT)











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TECHNOLOGY DISRUPTIONS

(Already Here)

Old Technology	Disruptive Technology	Old Technology	Disruptive Technology
 Slide Rule ✗	 Calculator ✓	 Film Camera ✗	 Digital Camera ✓
 Fixed-Line Phone ✗	 Mobile Phone ✓	 Typewriter ✗	 Word Processor ✓









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W. Kanok-Nukulchai

(Credit photo: W. Kanok-Nukulchai)

TECHNOLOGY DISRUPTIONS

(Coming Soon...)

Old Technology	Disruptive Technology	Old Technology	Disruptive Technology
 Coal Fired Power Plant ✗	 Solar Energy ✓	 Physical Shops ✗	 Online Shops ✓
 Bank / Bank Notes ✗	 Blockchain / Bitcoin ✓	 Human ? ✗	 A.I. Robot ✓

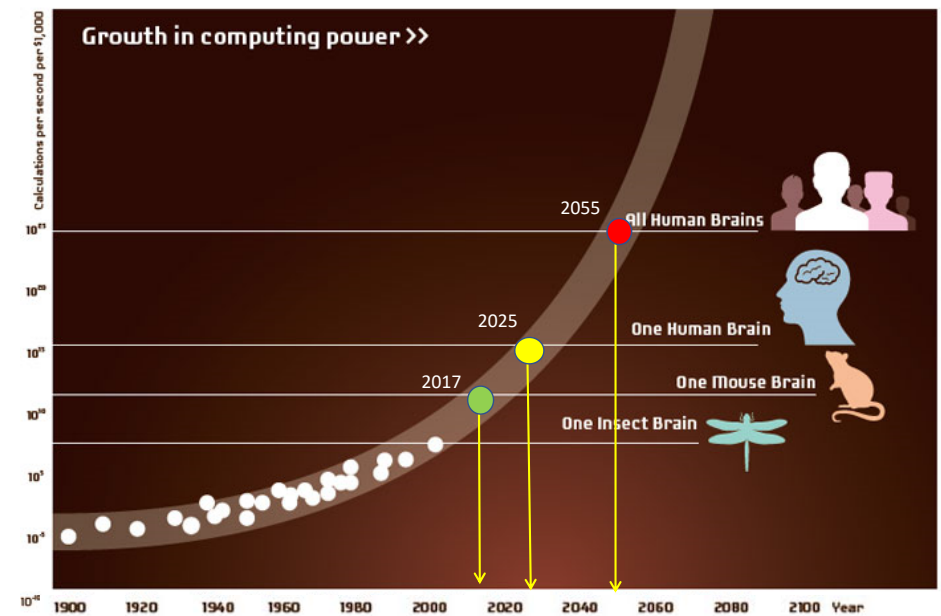
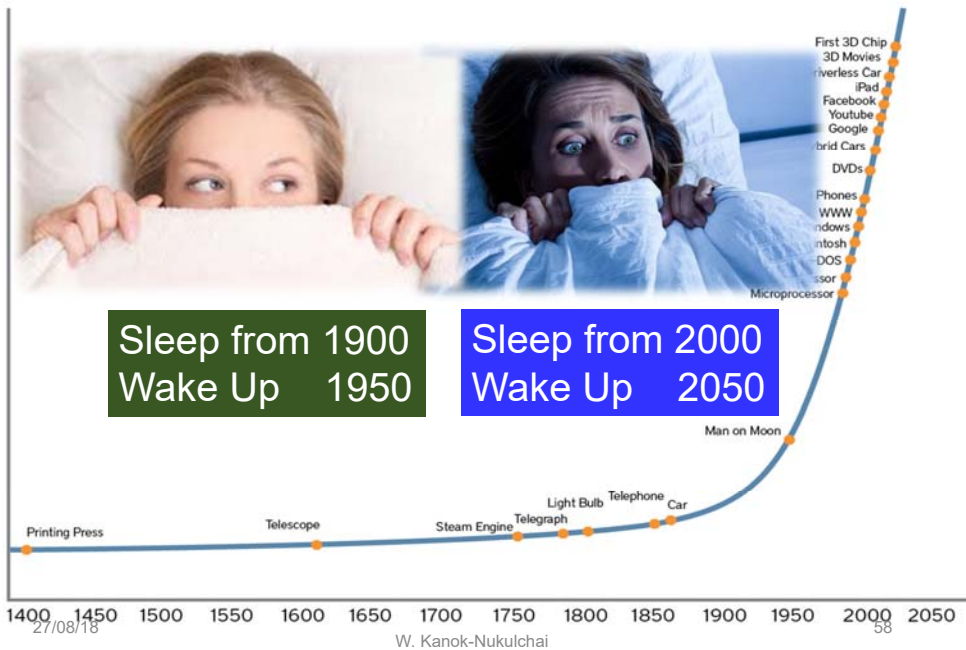
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W. Kanok-Nukulchai

(Credit photo: W. Kanok-Nukulchai)

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Sleeping Beauty wakes up after 50 years sleeping.



Peter Diamandis, Ray Kurzweil's Mind-Boggling Predictions for the Next 25 Years, 2015
<https://singularityhub.com/2015/01/26/ray-kurzweils-mind-boggling-predictions-for-the-next-25-years/>

THE ARTIFICIAL INTELLIGENT REVOLUTION

See you in the late 21st Century !



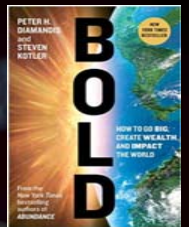
"Computers will overtake humans with AI within the next 100 years. When that happens, we need to make sure the computers have goals aligned with ours."

Stephen Hawking May 12, 2015

Could AIT develop its Education Disrupter?

The 6 Ds Development of Disruption - a road map of rapid development leading to disruptive technologies

- digitization
- deception
- disruption
- demonetization
- dematerialization
- democratization



(1) DIGITIZED



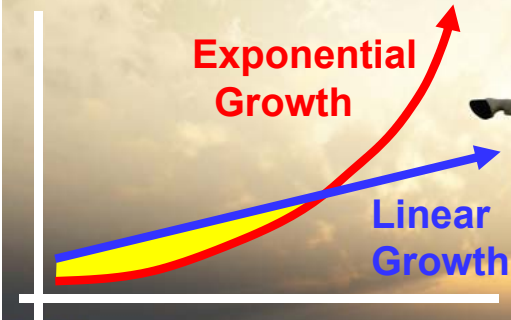
Digital information is easy to access, share, and distribute, it can spread at the speed of internet.

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(Credit photo: W. Kanok-Nukulchai)

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(2) DECEPTIVE



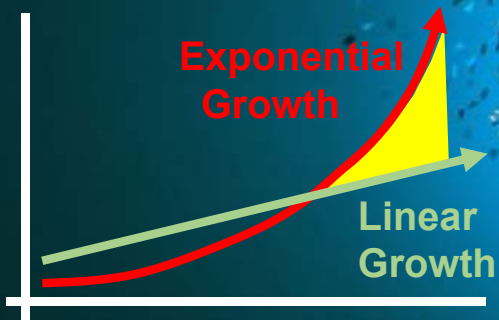
Initial period of growth is normally deceptive until the digital product breaks its linear expectation.

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(Credit photo: W. Kanok-Nukulchai)

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(3) DISRUPTIVE



Sooner or later, traditional product will be outperformed and disrupted by digital technology.

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(Credit photo: W. Kanok-Nukulchai)

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(4) DEMATERIALIZED



20 Years Later....All of these fit in your pocket...

Separated technologies that were once bulky and expensive are now all in a smart phone.

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(Credit photo: P. Diamantis)

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(5) DEMONETIZED

... and come for free on your smart phone!



Money is increasingly a non-issue, as technology becomes cheaper, often to the point of being free.

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(Credit photo: P. Diamantis)

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(6) DEMOCRETIZED



Powerful technologies are no longer only for governments, large corporates, or the wealthy.

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(Credit photo: W. Kanok-Nukulchai)

● **Global Megatrends**

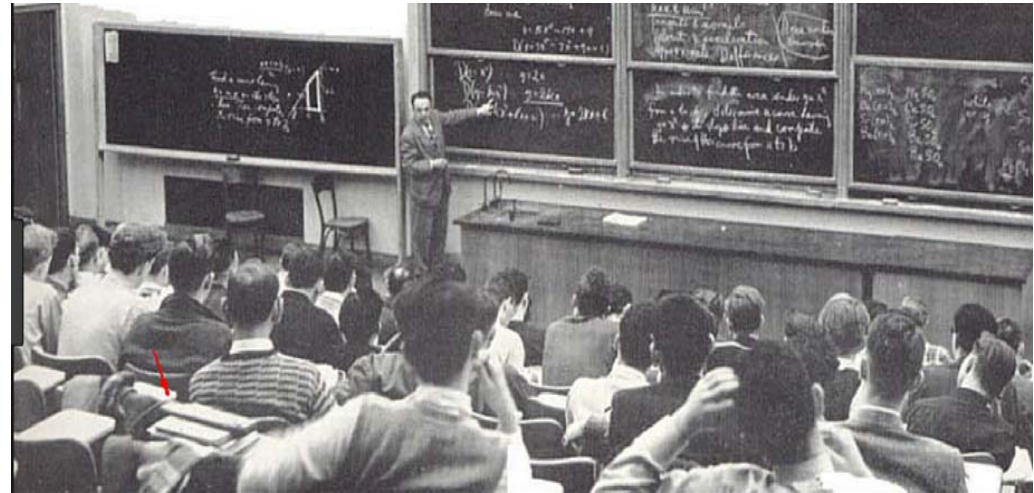
● **Exponential Growth of Technology**

● **Technological Disruption**

☑ **Future of Higher Education (& AIT)**



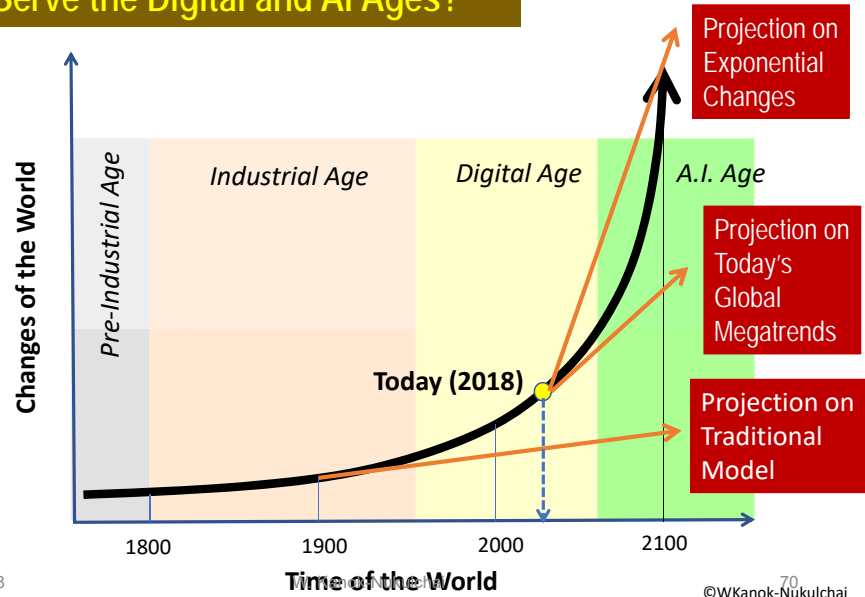
AIT GOES GLOBAL



EDUCATION SYSTEM TODAY IS IRRELEVANT.

Education system that exists today was designed to serve the industrial revolution in the 19th century. It needs reinvention so students can be groomed with “**universal basic competence**” to be able to adapt to the future world.

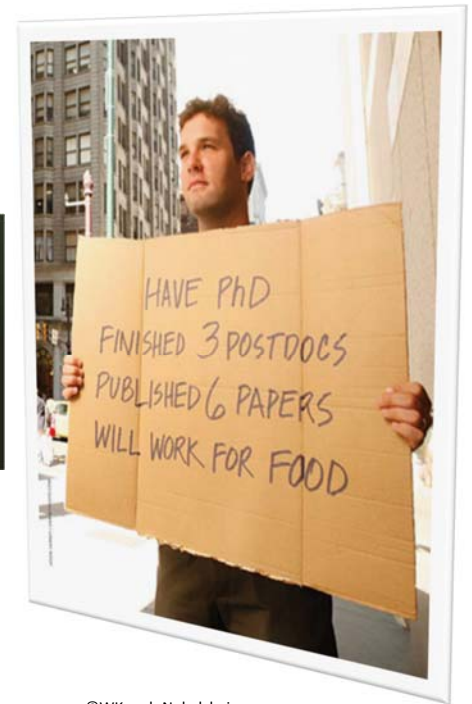
Should Industrial-Age Model of Education Create Graduates to Serve the Digital and AI Ages?



27/08/18

WHY EDUCATION MUST CHANGE:

“Today’s education is not fit to the world of tomorrow.”



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W. Kanok-Nukulchai

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Why Lifelong Learning?



“It is no longer possible to acquire knowledge once and spend the rest of one’s life applying them ”

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Even though knowledges (information) are available freely, it doesn’t mean any human is competent to learn.

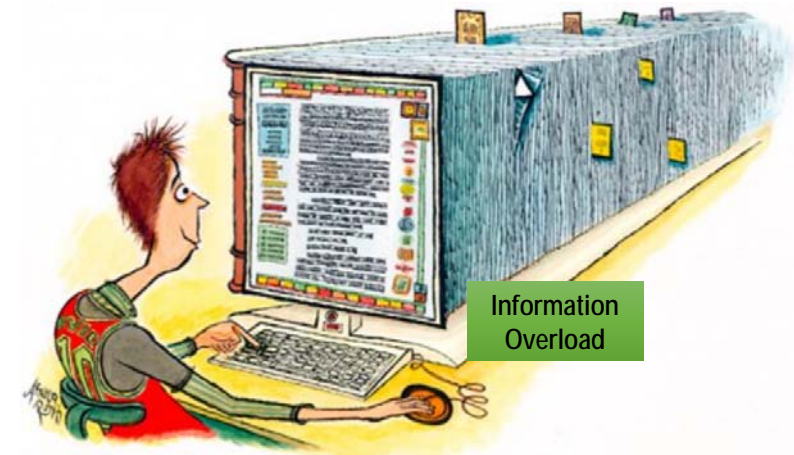


Photo Credit : <https://www.newyorker.com/culture/culture-desk/the-web-gets-smarter>

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MY PROPOSAL

Every human individual should be equipped, at least, with “**Universal Basic Competence**”, equired for his life-long learning in the future.



Worsak Kanok-Nukulchai

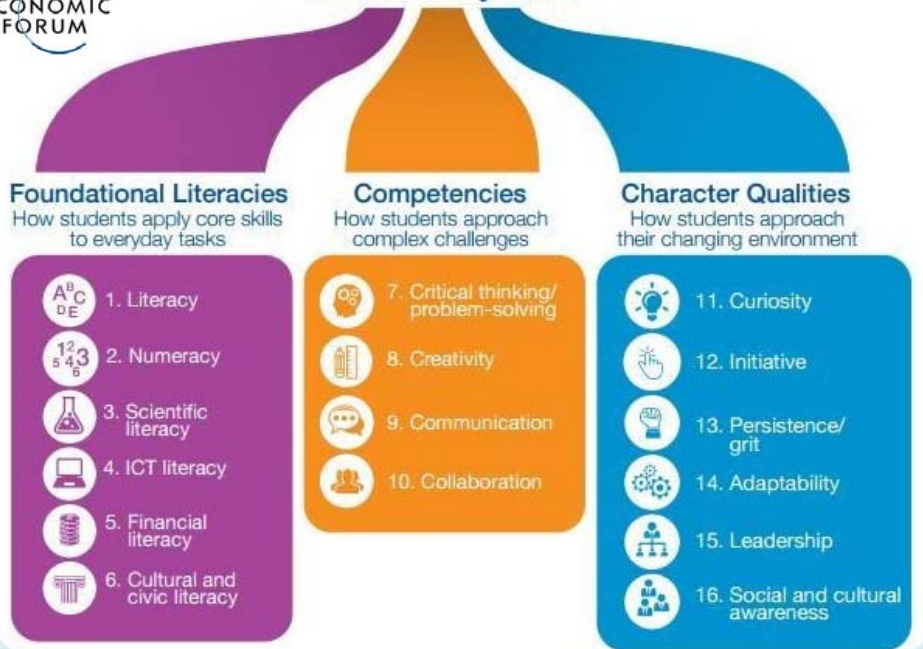
UNIVERSAL BASIC COMPETENCE

YEAR	Semester 1	Summer	Semester 2
Year 4	Pre-Professional	Internship	Pre-Professional
Year 3	STEM En	Character Qualities	STEM L
Year 2	STEM H	Competencies	STEM SS
Year 1	STEM	Foundational Literacies	STEM

S = Science, T = Technology, E = Engineering, M = Mathematics
 H = Humanities, SS = Social Science, En = Entrepreneurship, L = Law

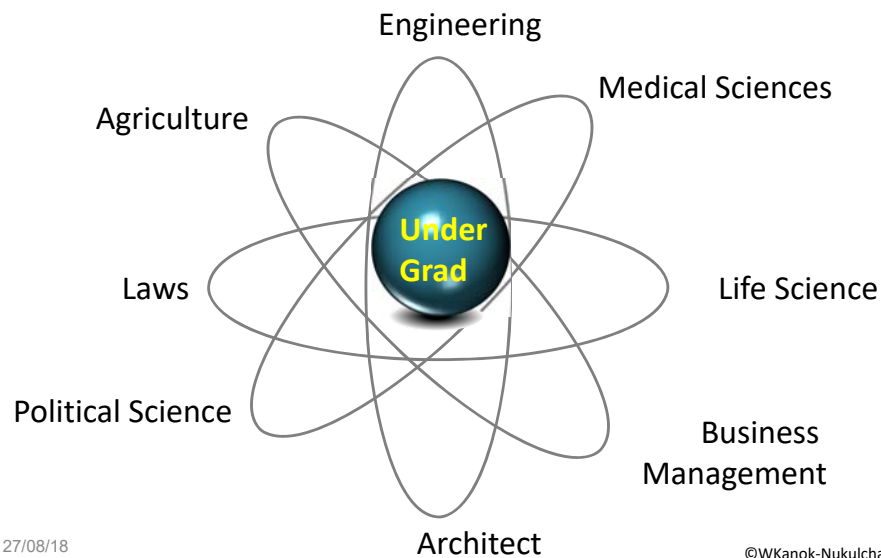


21st-Century Skills

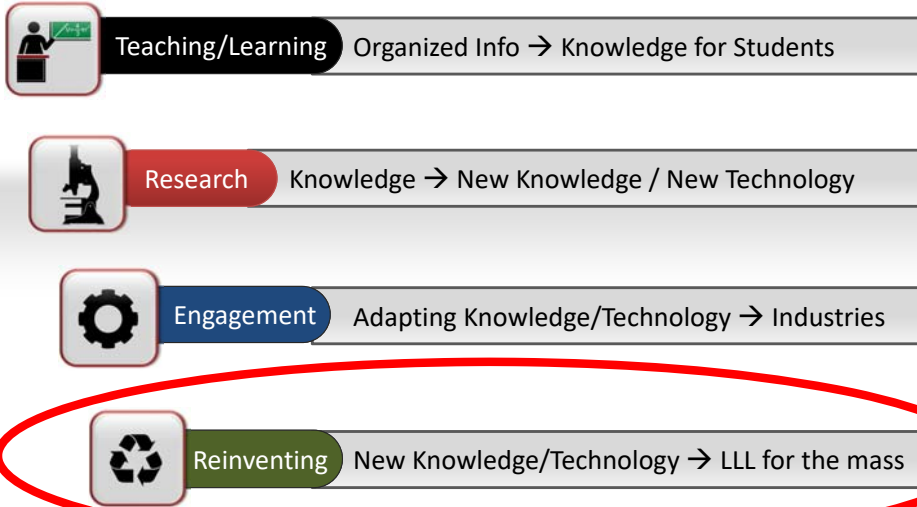


Post-Graduate Professional Degrees

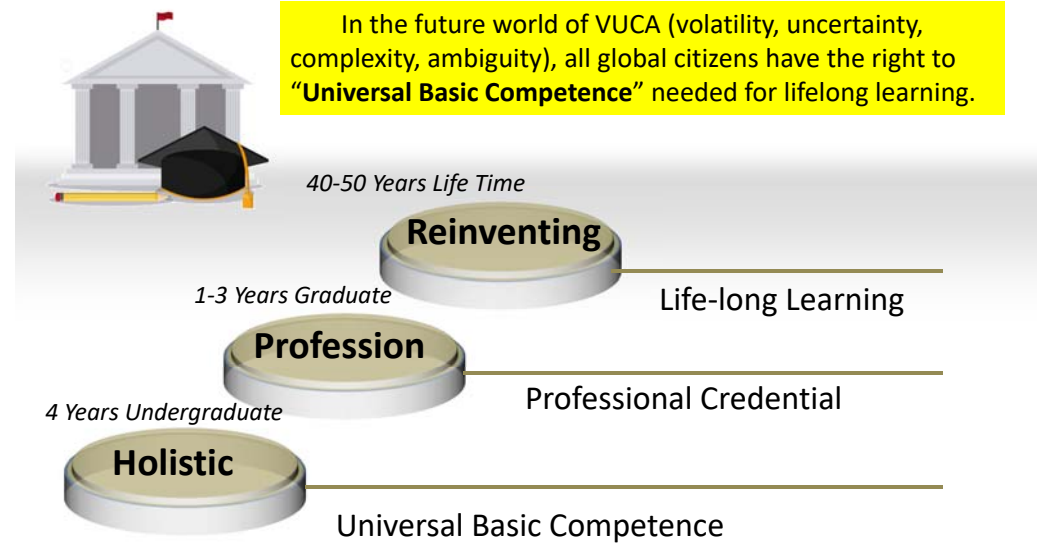
LEARN TO BE SPECIALISTS (2 YEARS)



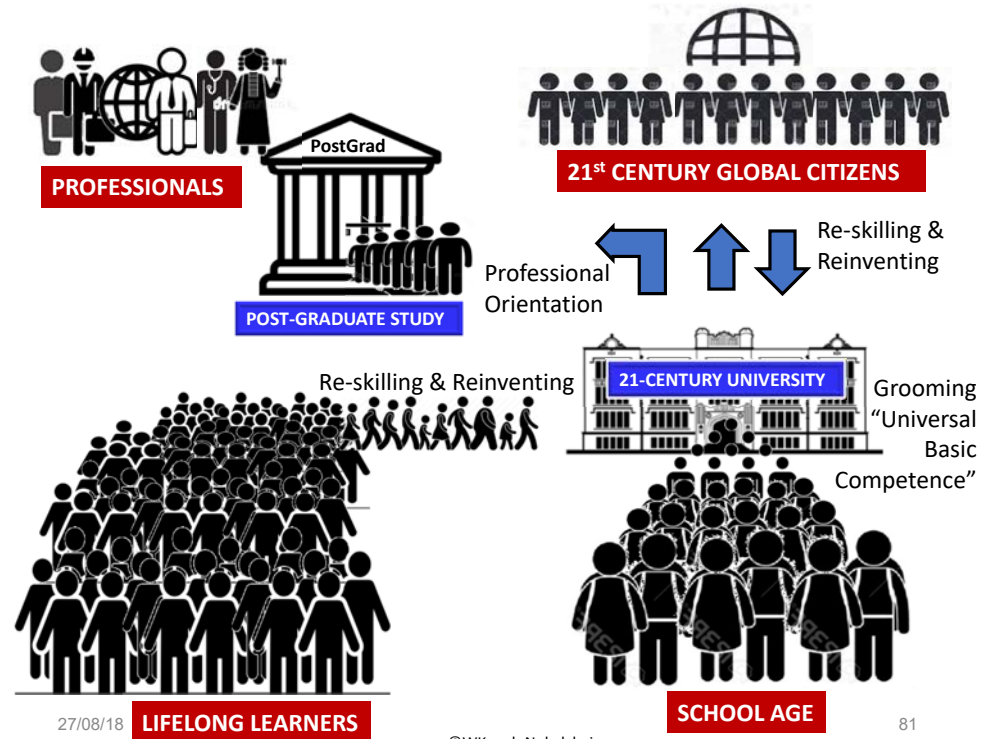
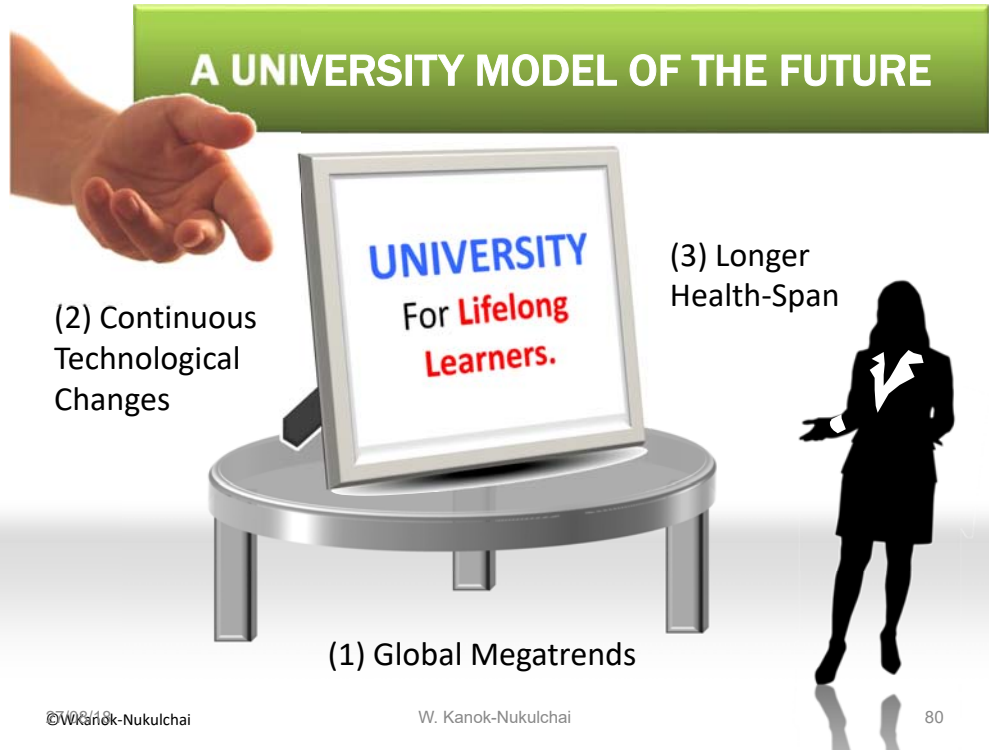
NEW ROLES OF HIGHER EDUCATION



Student's Lifelong Roles of Future University

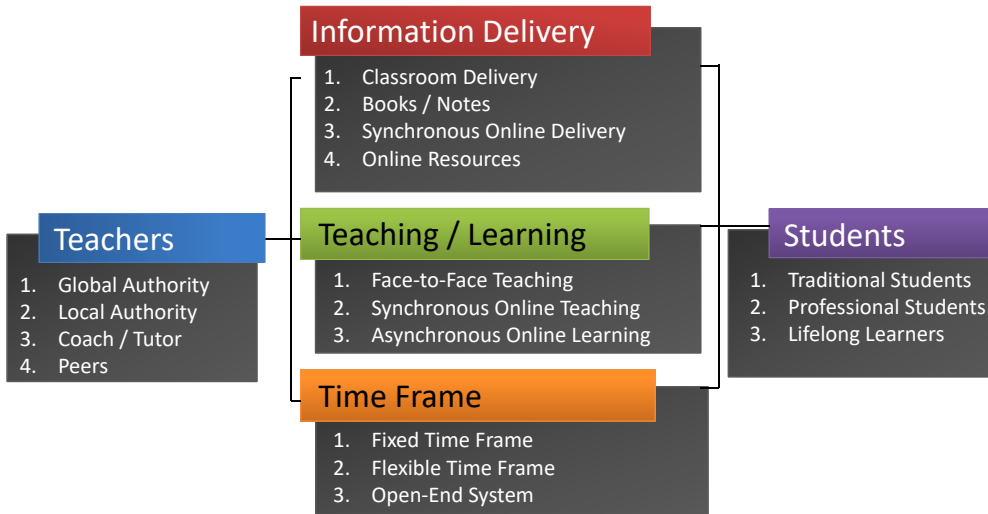


A UNIVERSITY MODEL OF THE FUTURE



Future Model of Higher Education

COMPONENTS OF EDUCATION SYSTEM



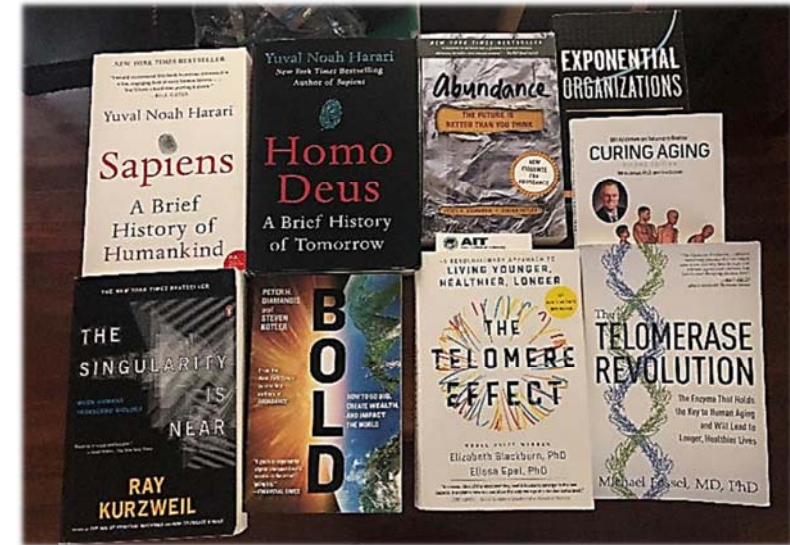
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References



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HOW LONG WILL "THE AIT MODEL" SURVIVE?



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