# PERAN PERGURUAN TINGGI DALAM PENINGKATAN KUALITAS SDM DAN DAYA SAING BANGSA

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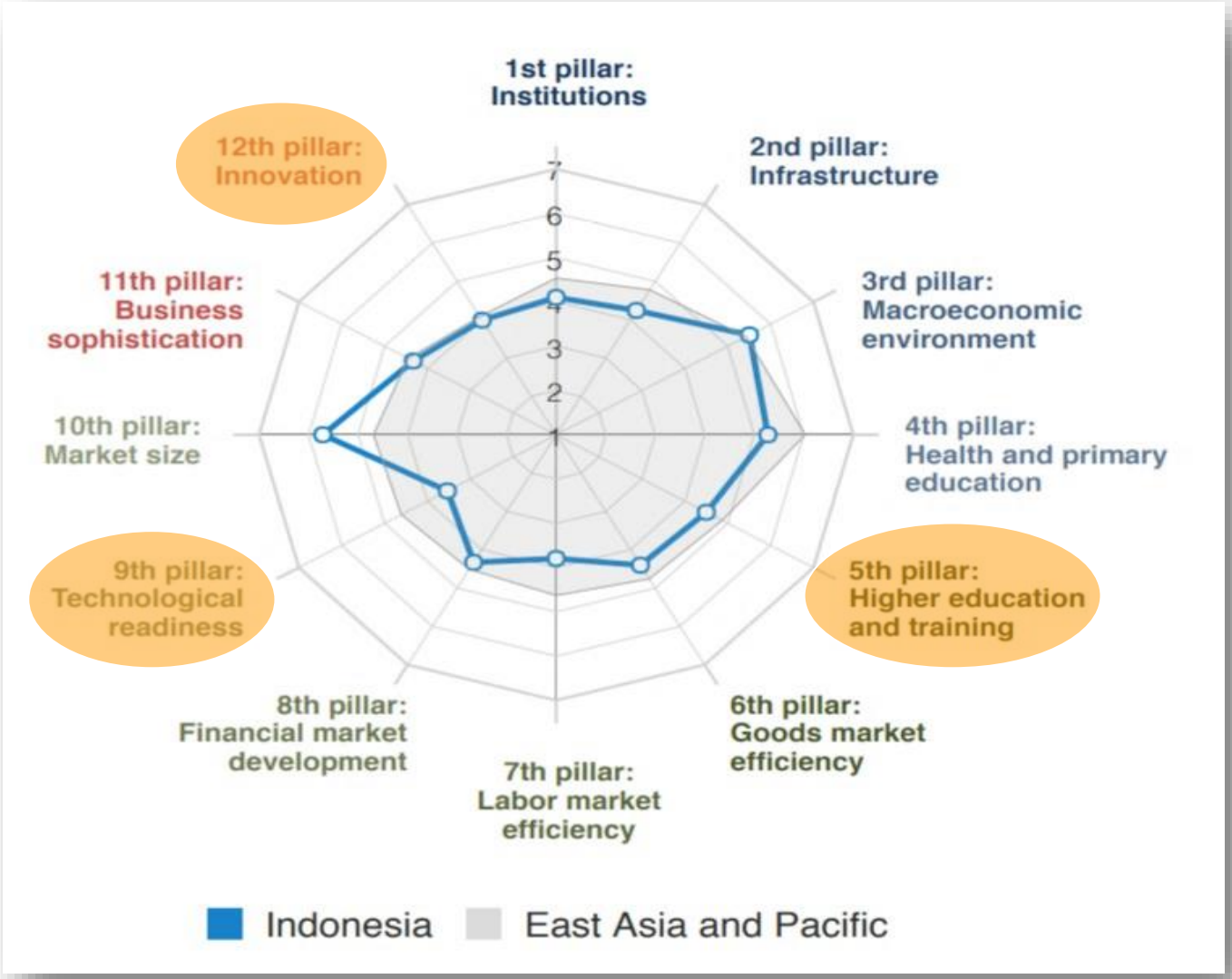
# WEF: Global Competitiveness Report 2017-2018




*WEF Report 2017-2018*

**Peringkat GCI Indonesia**

2012-2013, posisi **50** dari 144 negara dengan skor 4.4

2013-2014, posisi **38** dari 148 negara dengan skor 4.5

2015-2016, posisi **37** dari 140 negara dengan skor 4.5

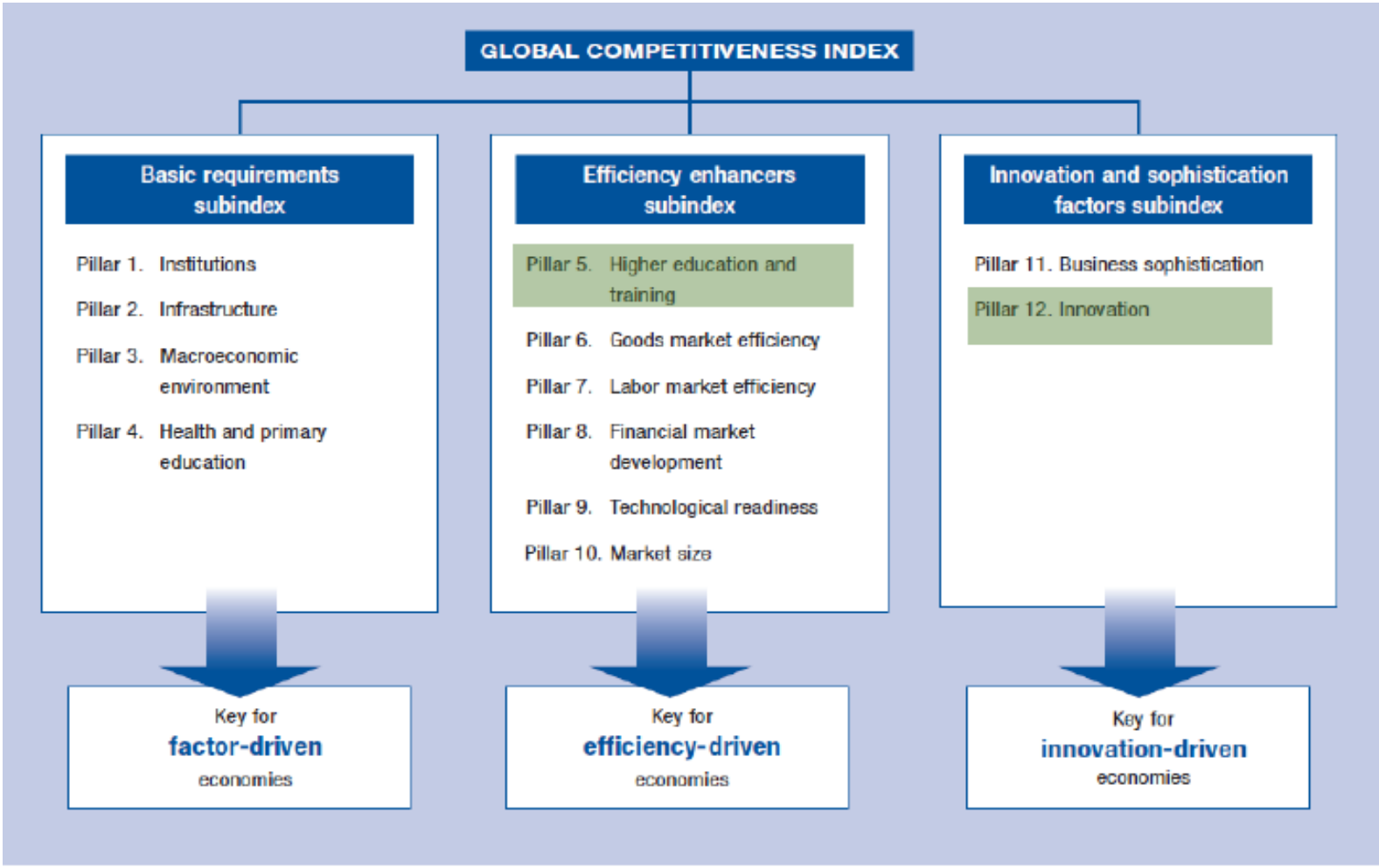
2016-2017, posisi **41** dari 138 negara dengan skor 4.5

2017-2018, posisi **36** dari 137 negara dengan skor 4.7

**Note**:
Indonesia masih di bawah 3 negara di ASEAN yaitu:

Thailand di posisi 32, Malaysia di posisi 23, dan Singapura di posisi 3

# Driven's Keys




*WEF Report 2017-2018*

# Three Pillar's Performance: INA Overview

| 5th pillar: Higher education and training | 64 | 4.5 |
|---|---|---|
| 5.01 Secondary education enrollment rate gross % | 85 | 85.8 |
| 5.02 Tertiary education enrollment rate gross % | 91 | 24.3 |
| 5.03 Quality of the education system | 33 | 4.4 |
| 5.04 Quality of math and science education | 40 | 4.6 |
| 5.05 Quality of management schools | 42 | 4.6 |
| 5.06 Internet access in schools | 45 | 4.8 |
| 5.07 Local availability of specialized training services | 45 | 4.7 |
| 5.08 Extent of staff training | 30 | 4.6 |

| | |
|---|---|
| Population millions | 258.7 |
| GDP US$ billions | 932.4 |

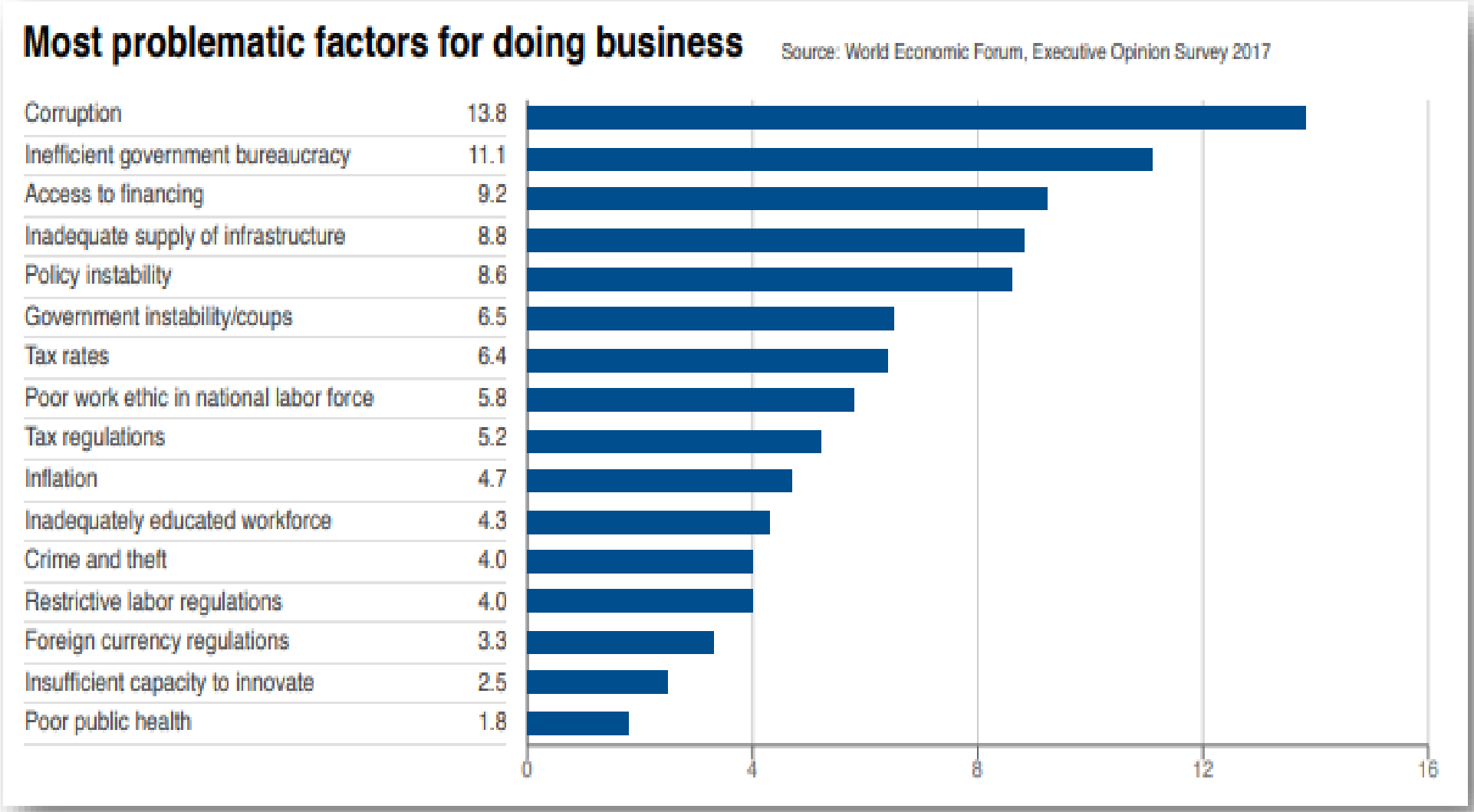
| 9th pillar: Technological readiness | 80 | 3.9 |
|---|---|---|
| 9.01 Availability of latest technologies | 67 | 4.8 |
| 9.02 Firm-level technology absorption | 39 | 5.0 |
| 9.03 FDI and technology transfer | 44 | 4.7 |
| 9.04 Internet users % pop. | 109 | 25.4 |
| 9.05 Fixed-broadband Internet subscriptions /100 pop. | 103 | 1.9 |
| 9.06 Internet bandwidth kb/s/user | 90 | 24.9 |
| 9.07 Mobile-broadband subscriptions /100 pop. | 56 | 67.3 |

| 12th pillar: Innovation | 31 | 4.0 |
|---|---|---|
| 12.01 Capacity for innovation | 31 | 4.8 |
| 12.02 Quality of scientific research institutions | 40 | 4.4 |
| 12.03 Company spending on R&D | 29 | 4.4 |
| 12.04 University-industry collaboration in R&D | 30 | 4.3 |
| 12.05 Gov't procurement of advanced technology products | 12 | 4.4 |
| 12.06 Availability of scientists and engineers | 35 | 4.5 |
| 12.07 PCT patents applications/million pop. | 97 | 0.1 |

| | |
|---|---|
| GDP per capita US$ | 3,604.3 |
| GDP (PPP) % world GDP | 2.53 |

*WEF Report 2017-2018*

# Most Problematic Factors



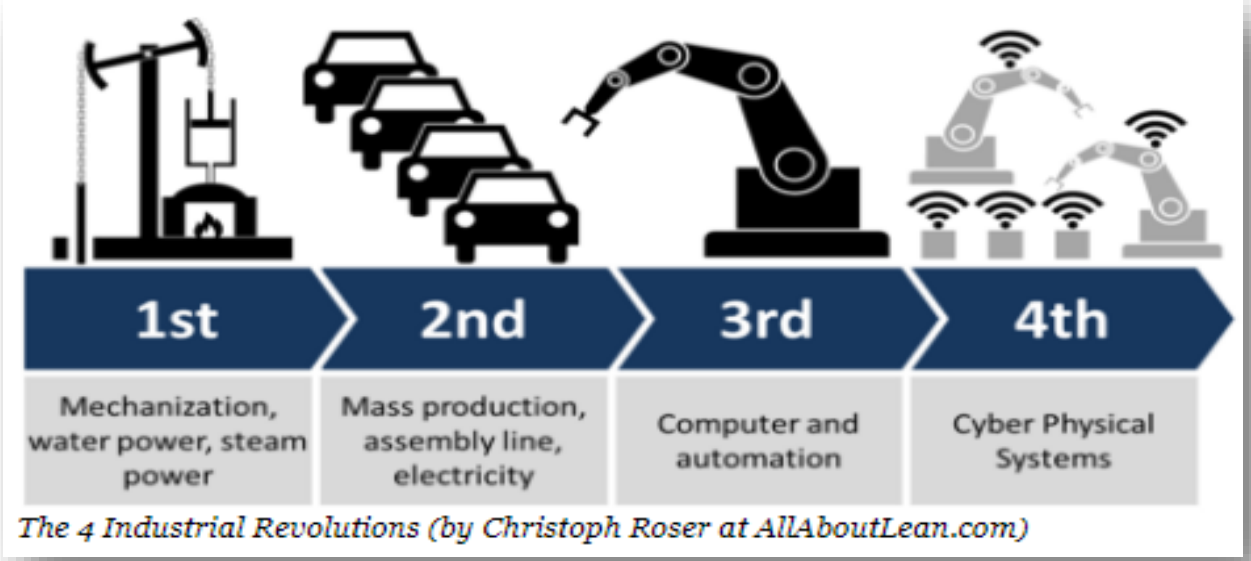

*WEF Report 2017-2018*

# Unesco's "Four Pillars of Education"

| PILLARS OF EDUCATION | TARGET | TOOLS | TRADITIONAL | TRANS DISCIPLINARY |
|---|---|---|---|---|
| Learning to know | Knowledge | Head | Knowing | Understanding |
| Learning to do | Skill/Actions | Hands | Doing/acting | Creating |
| Learning to be | Awareness | Heart | Existing | Being |
| Learning to live together | Attitudes | Values | In society | In society and universe |

**Kurikulum berbasis Kompetensi**: MKKK, MKKB, MKBB, MKPK
**Kompetensi Dosen**: Kepribadian, Professional (keilmuan & skill), Pedagogik, Sosial

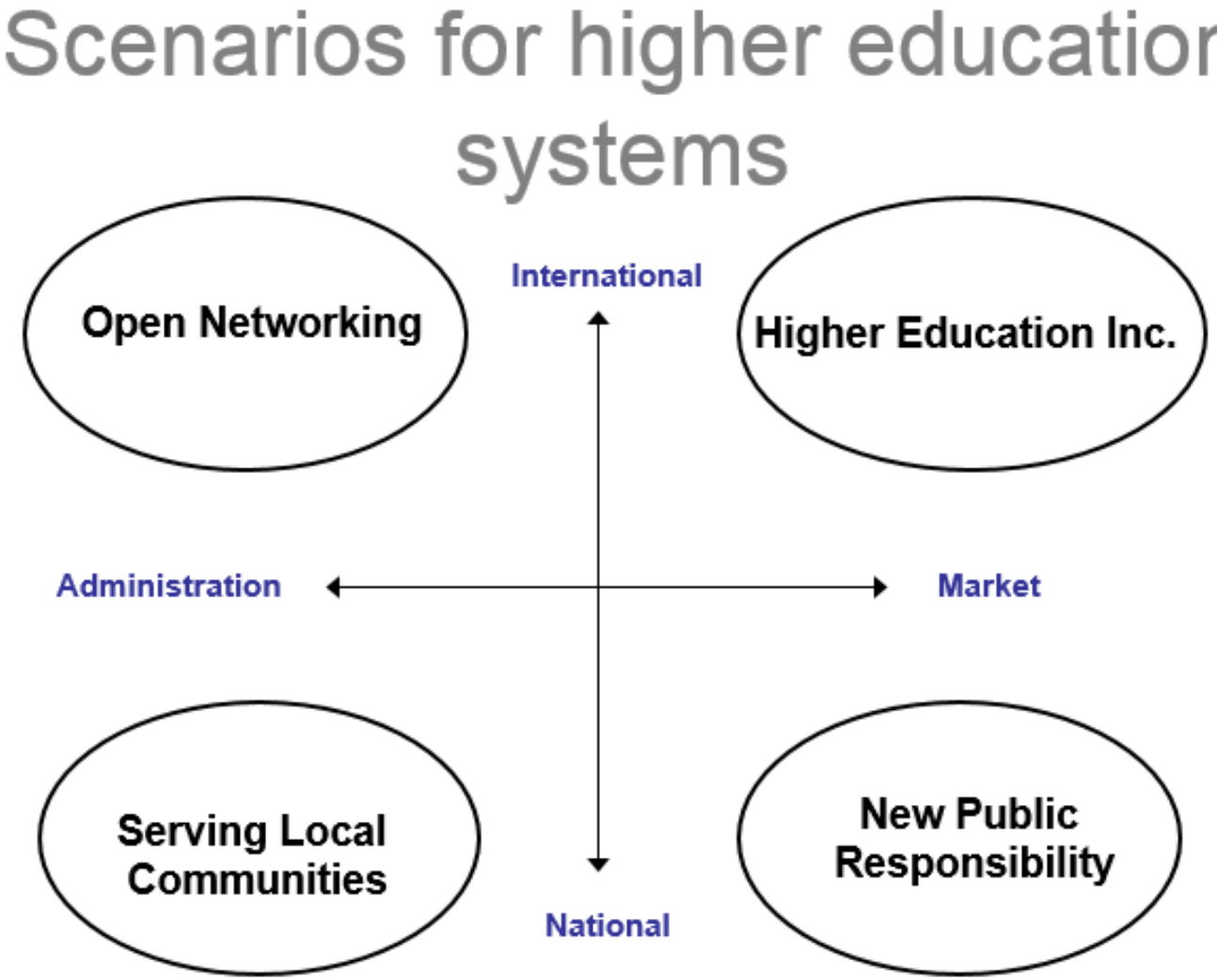
# Perkembangan Revolusi Industri



*The 4 Industrial Revolutions (by Christoph Roser at AllAboutLean.com)*

**CONVERTIBLE TABLETS/LAPTOPS, SMART HOME DEVICES, AUGMENTED REALITY, COMPANION ROBOTS, CHIP WARS, ARTIFICIAL INTELLIGENCE-IN EVERYTHING, HEALTH SENSORS, 5G TECHNOLOGY, SMARTER CARS, FACIAL RECOGNITION, VIRTUAL REALITY, SMART CITIES, CONNECTED DEVICES EVERYWHERE, WIRELESS CHARGING, LED TVS, 3D PRINTERS FOR MORE THAN JUST PLASTIC, BOOSTED PERFORMANCE ANALYSIS IN SPORTS TECH, DRONES ALWAYS MAKE AN APPEARANCE AT CES**

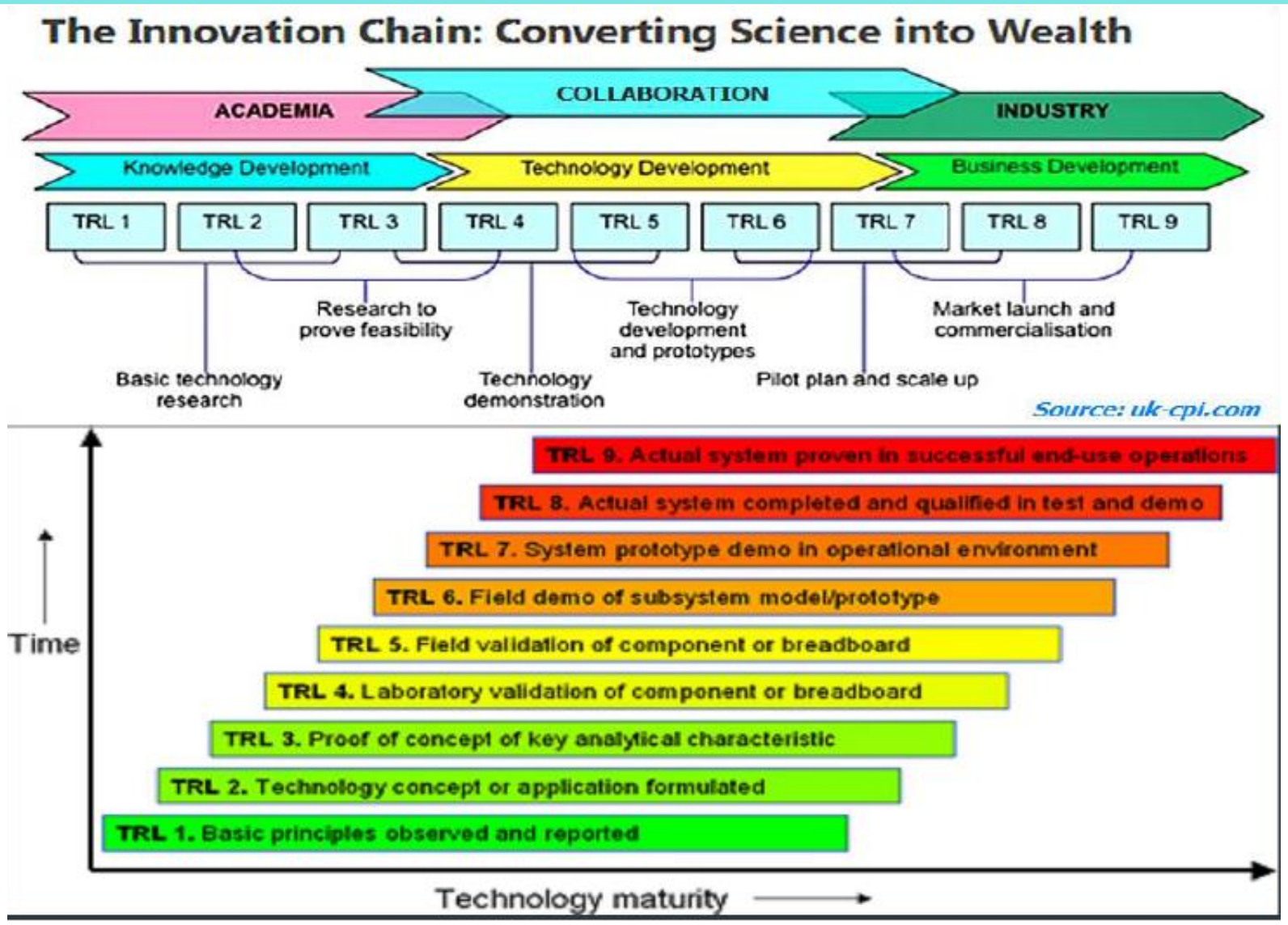
# Scenarios for High Education System




Bussiness As Usual

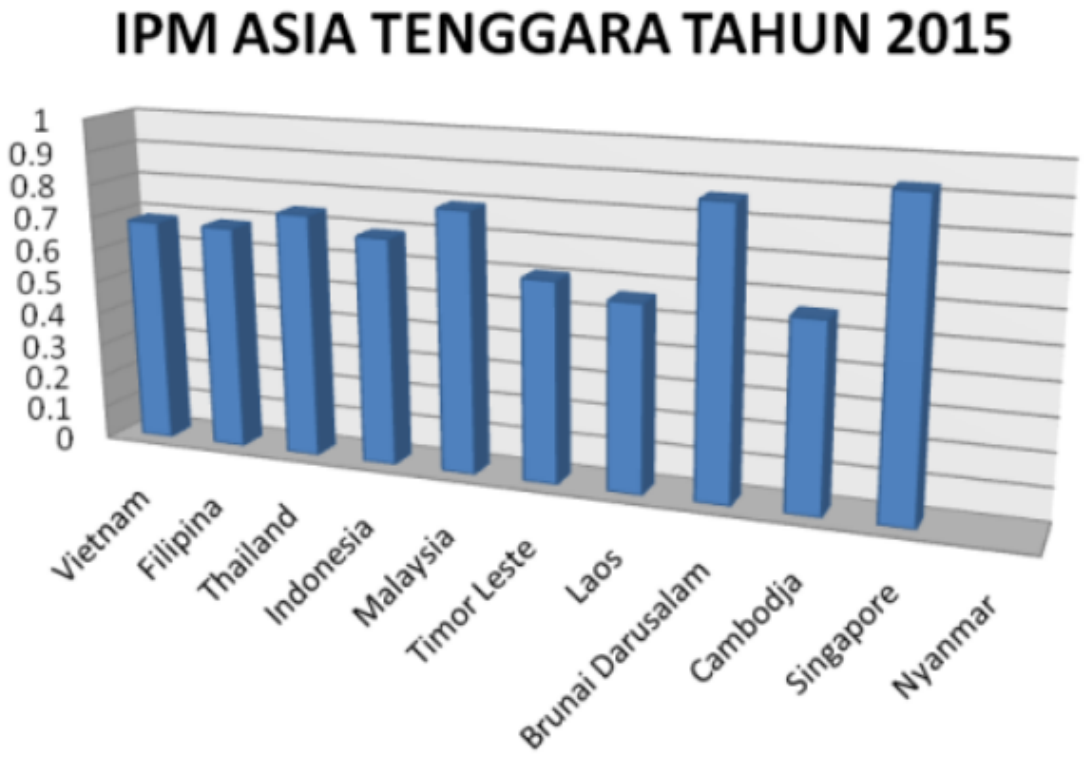
*Quadrant for HE*

# Innovation Chain




*Technological Readiness Level*

# Human Development Index




**'Indeks ini menjadi patokan sejauh mana pemerintah berhasil membangun manusia dari aspek fisik (kesehatan), intelektualitas (pendidikan), serta kesejahteraan ekonomi (pendapatan dan daya beli). Aspek kesehatan diukur dengan rata-rata panjang umur penduduk'**

UNDP mencatat, IPM Indonesia 2015 sebesar 0,689 dan berada di tingkat 113 dari 188 negara di dunia

Pertama, sekitar **140 juta orang Indonesia yang hidup dengan biaya kurang dari Rp20 ribu per hari** dan 19,4 juta orang menderita gizi buruk.

Kedua, sebanyak **dua juta anak di bawah usia satu tahun belum menerima imunisasi lengkap**. Kemudian, **angka kematian ibu** sebanyak 305 kematian per 100 ribu kelahiran hidup.

Ketiga, hampir **lima juta anak tidak bersekolah** dan anak-anak di Papua memiliki tingkat dikeluarkan dari sekolah yang tinggi.

Note: Norwegia peringkat satu



*Some Data*

# Technological Achievement Index

Data UNDP tahun 2013 rasio ilmuwan atau peneliti per satu juta penduduk:
Indonesia 205, Korea Selatan 4.627, Jepang 5.573, Singapura 6.088
**Indeks Pencapaian Teknologi Indonesia urutan ke-60 dari 72 negara** (Armida, Ketua Bappenas)

Patents granted to residents per million people (2000–2005)

Receipts of royalty and license fees in US$ per 1,000 people (2005–2006)

Internet users per 1000 people (2005)

High-technology exports (% of manufactured exports) (2005–2006)

Telephone (mainlines and cellular) per 1000 people (2005)

Electricity consumption, KWH per capita (2005)

Gross enrolment ratio, all levels combined (except pre-primary)(2003–2007)

Gross enrolment ratio in science, engineering, manufacturing and construction. Tertiary (2003–2007)

*Some Data*

# Knowledge Based Society

- The detention and *exchange of* ***Knowledge***
- ***ICT roles*** in communication, business, leisure times, etc. → *inherit from divides* (social, literacy, digital, age)
- ***Lifelong education*** → constant *reinforcement of science*
- ***Globalized***: *spatial-temporal life condition, scope for point of view, action and practical modes*

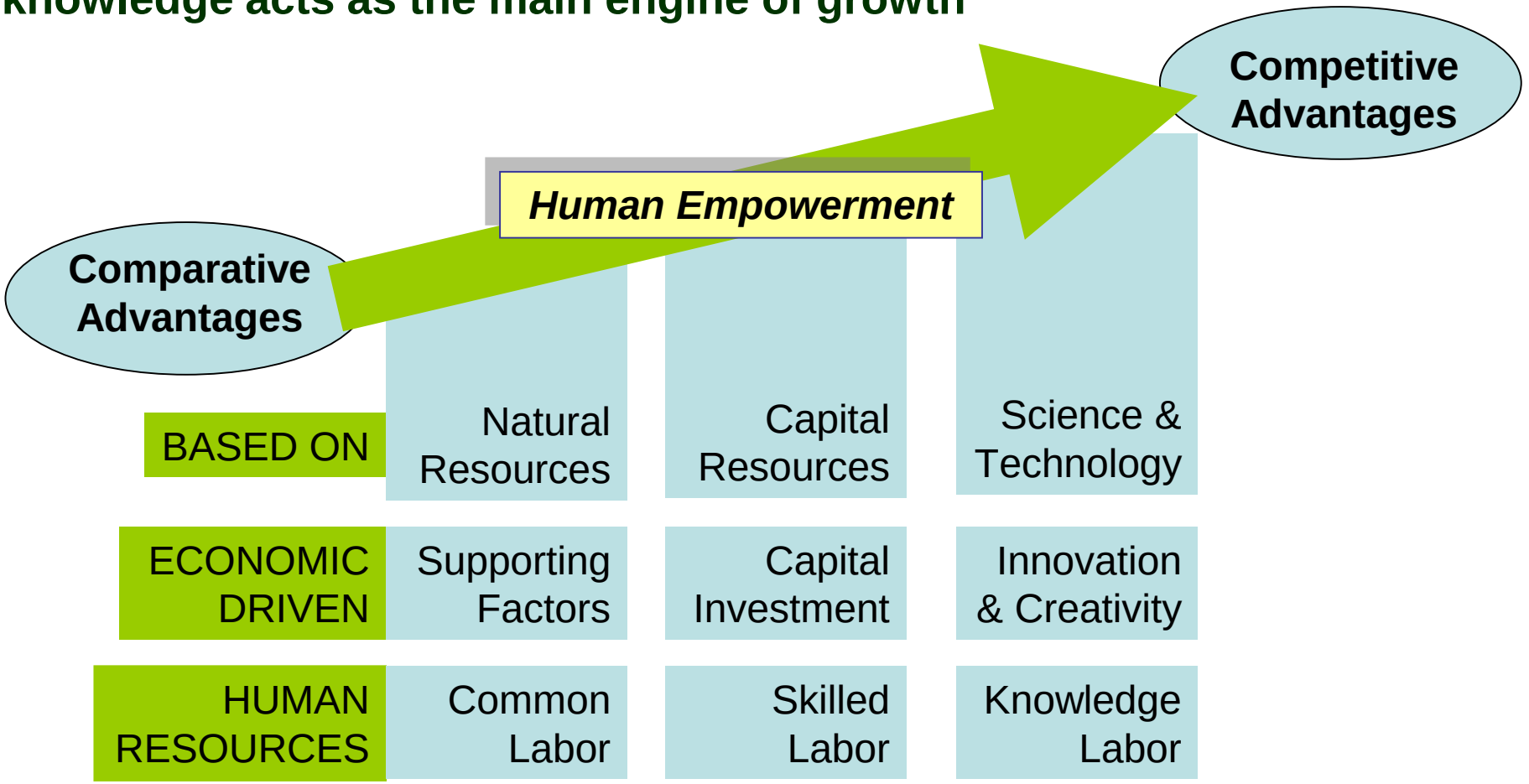
**Most valuable asset in the 21st century** → *Investment in intangible, human, and social capital*

Sources: *J.P.Contzen, "Opportunities for UNL in the Knowledge Based Society of the 21st Century", ICUKL, Goa, 2002*
*Potocnik J., The role of science and technology in a Knowledge Based Society, Univ. of Warwick, Coventry, 2007*

# Innovation: Competitiveness Issues

Power of the New Economic Regime: Innovation + Creativity

→ **knowledge acts as the main engine of growth**




Source: Zuhal, *Concept of Enterprising University, University Al Azhar Indonesia, April 2008*

# QS-AUR Ranking: Indonesia vs Malaysia

VS

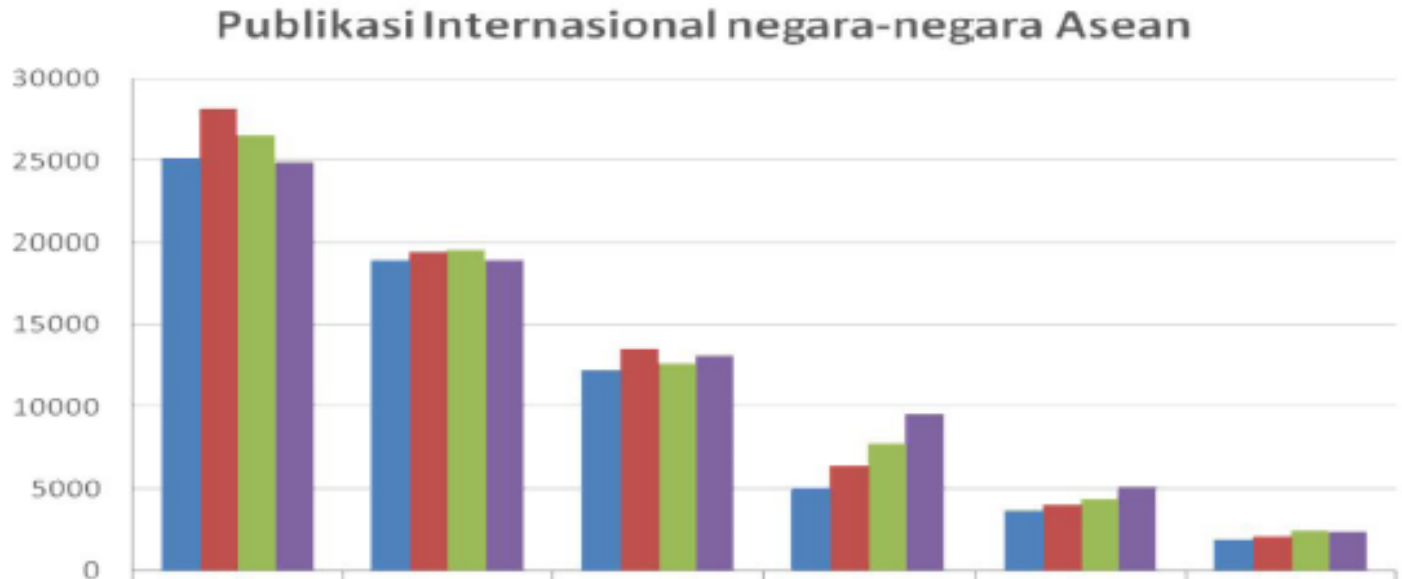
| Universitas | | Rangking 2015 | Rangking 2016 |
|---|---|---|---|
| 1 | UI | 310 | 358 |
| 2 | ITB | 461-470 | 431 - 440 |
| 3 | UGM | 551-600 | 551 - 600 |
| 4 | IPB | 701 + | 701 + |
| 5 | UNAIR | 701 + | 701 + |

| No | Universitas | Ranking 2015 | Rangking 2016 |
|---|---|---|---|
| 1 | UM | 151 | 146 |
| 2 | UKM | 259 | 312 |
| 3 | UTM | 294 | 303 |
| 4 | USM | 309 | 289 |
| 5 | UPM | 379 | 331 |

**Ahmad Badawi** (2008): ***SDM sangat penting, luar biasa vital, dan persoalan hidup mati bangsa*** → hasilnya 2015 publikasi Malaysia terbanyak di Asean

# Publications

## Publikasi




| | Malaysia | Singapore | Thailand | Indonesia | Vietnam | Phillipines |
|---|---|---|---|---|---|---|
| 2013 | 25176 | 18931 | 12206 | 5068 | 3664 | 1889 |
| 2014 | 28199 | 19456 | 13483 | 6380 | 4029 | 2131 |
| 2015 | 26560 | 19619 | 12652 | 7766 | 4404 | 2468 |
| 2016 | 24910 | 18950 | 13142 | 9574 | 5123 | 2382 |

*Publication in Asean Universities*

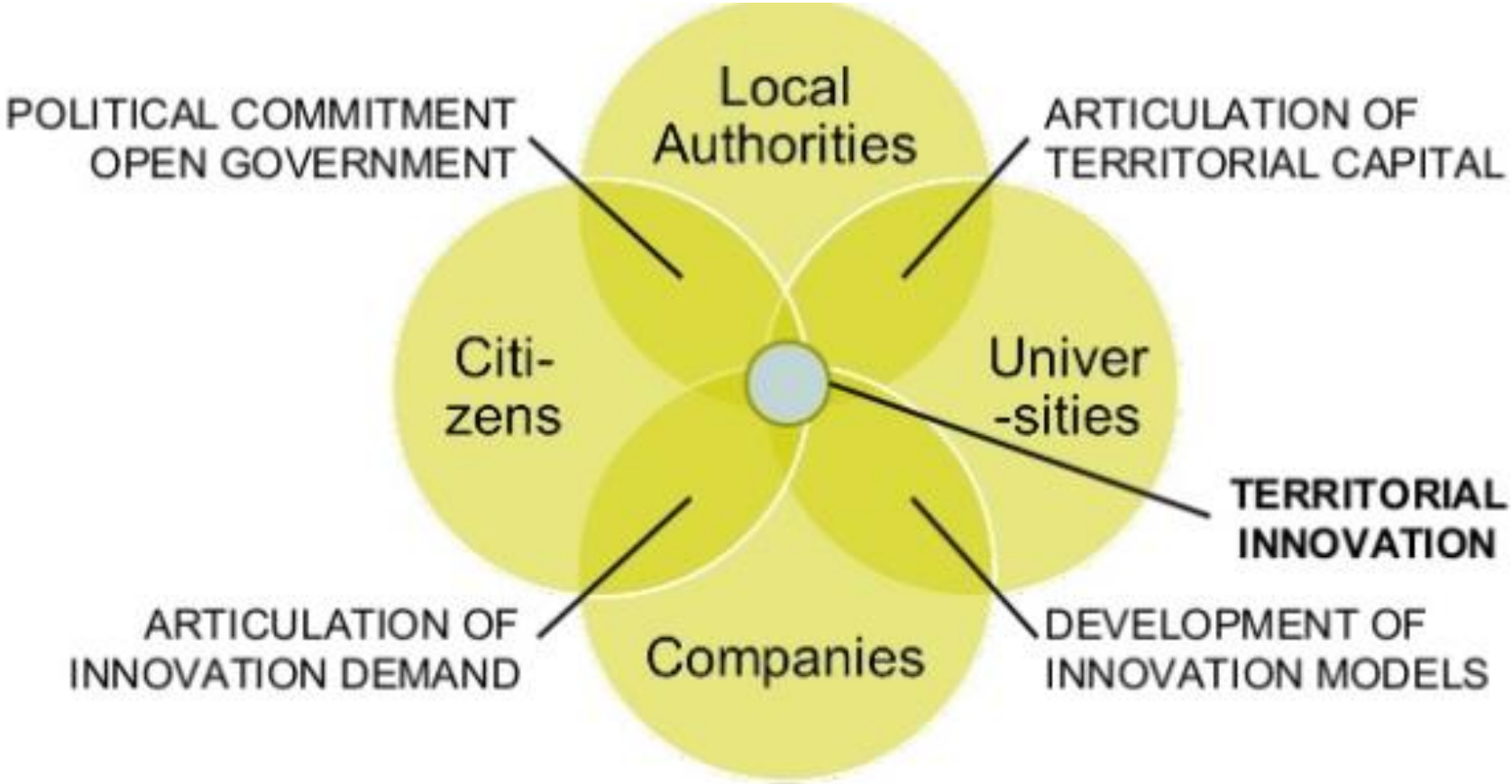
# Peringkat PT-Non Poltek Ristekdikti 2017

Daftar 100 Peringkat Perguruan Tinggi Non-Politeknik di Indonesia tahun 2017. Tgl 18 August 2017

| No | Nama Perguruan Tinggi | Peringkat |
|---|---|---|
| 1 | Universitas Gadjah Mada | 1 |
| 2 | Institut Teknologi Bandung | 2 |
| 3 | Institut Pertanian Bogor | 3 |
| 4 | Universitas Indonesia | 4 |
| 5 | Institut Teknologi Sepuluh Nopember | 5 |
| 6 | Universitas Diponegoro | 6 |
| 7 | Universitas Airlangga | 7 |
| 8 | Universitas Brawijaya | 8 |
| 9 | Universitas Hasanuddin | 9 |
| 10 | Universitas Negeri Yogyakarta | 10 |

*Kemristekdikti: PT Ranking 2017*

# Quadruple Helix



# Saran dan Kesimpulan

- Perlu "*political will*" dari pemerintah untuk mendorong peningkatan mutu PTN/PTS.
- Manfaatkan PTN dan PTS guna membantu tantangan Pembangunan dan hadapi Bonus Demografi.
- Dorong Kemitraan "Quadruple Helix ABCG" *Academics*/A, *Business*/B, *Citizens*/C, *Goverment*/G)
- Tingkatkan kinerja Lembaga yang sudah ada, dan utamakan sinergisitas antar Lembaga.
- Hindari *Overlapping* dan Redundansi Kegiatan
- *Thinks Globally, Acts Locally*.

# Sumber Acuan dan Pustaka


- World Economic Forum: *The Global Competitiveness Report 2017-2018.*
- Charles M. Vest: *Engineering Education for the 21st Century*, ASEE Annual Conference, Pittsburgh, June 23, 2008.
- Kemristekdikti: *Kebijakan Pengembangan Kampus Dalam Rangka Peningkatan Mutu Perguruan Tinggi*, Mei 2017.
- Kemristekdikti: *Kebijakan Kemristekdikti Terkait Pendidikan Tinggi Dan Pendidikan Professi Insinyur*, Oktober 2017.
- https://rideralit.wordpress.com/2017/04/30/peluang-dan-tantangan-pekerja-di-era-industri-4-0/, accessed March 3, 2018.
- Hermawan Krisno Dipojono: *Universitas Kelas Dunia dan Pemeringkatan Kelas Dunia*, 2015.
- Stephan Vincent- Lancerin: *How the crisis make transform higher education, some scenarios*, www.oecd.org/edu/universityfutures, www.oecd.org/edu/ innovation, accessed March 3, 2018
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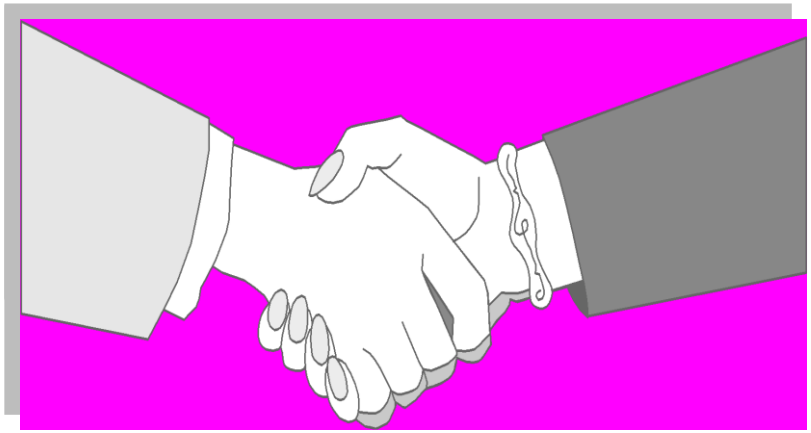
# Terima Kasih atas Perhatiannya



Wabillahi Taufiq wal Hidayah
Wassalamualaikum ww