Reforming a Higher Education System – The Case of Indonesia

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How do we "survive" in
-the era of industry 4.0 and beyond?

"technological revolution that will fundamentally alter the way we live, work and relate to one another. In its scale, scope and complexity, the transformation will be unlike anything humankind has experienced before" (Schwab, 2016)

" It is not the strongest of the species that survives, nor the most intelligent that survives. **It is the one that is most adaptable to change.** (Charles Darwin)

Higher Education System

Indonesia

2020

Population: ~273 million

Disparity in quality

4,713	28,091	30.28%	~8 Million
Higher Education Institutions	**Study Program**	**GER**	**Students**

(Vocational students : ~15.1%)
Full Scholarship: 400,000/year

~294,000
Faculty

(~14.2 % PhD's)
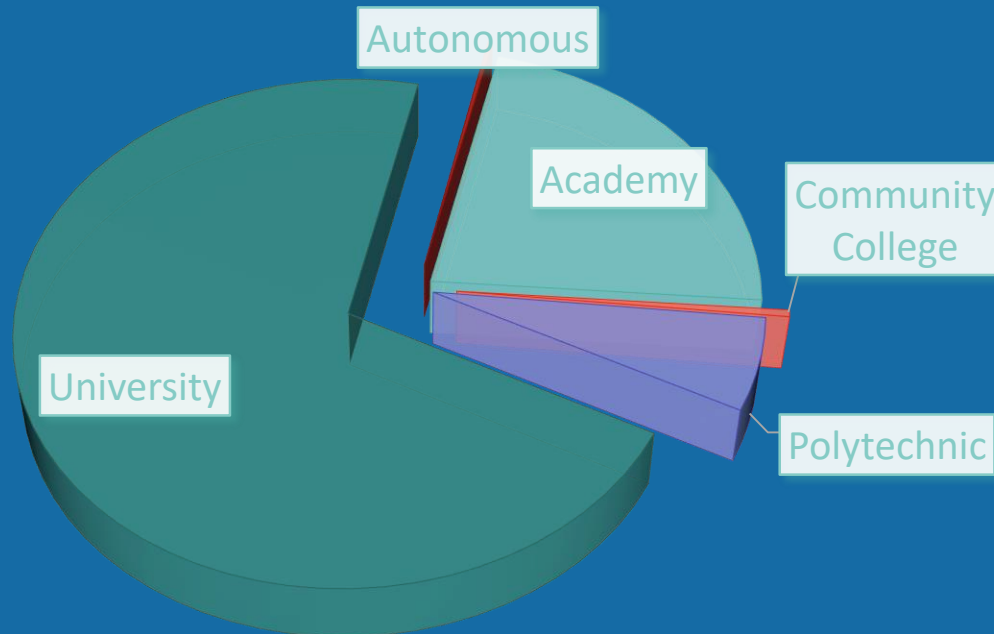
World Rank (QS): 3 Universities (Top 200-400)

ACCREDITATION

- Study Programs, 68.5 % (>/ B)
- Internationally Accredited:
     241 Study Programs in 19 HEIs.

Autonomous

Academy

Community College

University

Polytechnic

Higher Education Reform in Indonesia:

- **Background and Rationale**

1. The (existing) future:

Technological Revolution: *"technological revolution that will fundamentally <u>alter the way we live, work and relate to one another</u>. In its scale, scope and complexity, the transformation will be unlike anything humankind has experienced before"* (Schwab, 2016)

2. Job-Skill mismatch (unemployment)

3. Opportunities- automation and the future of jobs created in Indonesia

4. Higher Education Institution to stay relevant-> equip students with new competencies and skills

Image: shutterstock.com

Higher Education and 4ᵗʰ Industrial Revolution

ASEMME6 2017 KOREA
6th ASEM Education Ministers' Meeting
21-22 November 2017 Seoul, Republic of Korea

G20 ARGENTINA 2018
BUILDING CONSENSUS FOR FAIR AND SUSTAINABLE DEVELOPMENT

G20 Education Ministers' Declaration 2018

EDUCATION AND EMPLOYMENT MINISTERIAL MEETING
6 September / Mendoza, Argentina

In the next decade, the pace of change will only accelerate and the world will become more complex with the wave of the 4th Industrial Revolution. The convergence across the physical, digital and human worlds driven by the new wave will blur the lines between national borders, between social sectors, and between online and offline worlds. Against this backdrop, we will live in a more intertwined world, where a challenge of a single country contagiously becomes a challenge for all, and where vast gaps in technological advancement and individual adaptability among countries exacerbate global inequality, especially in education and employment. Our collective wisdom on the

https://www.aseminfoboard.org/events/6th-asem-education-ministers-meeting-asem-me6

It is important that education keeps pace with societal and technological innovations such as Artificial Intelligence, Big Data and Internet of Things. We recognise that changes in the economy and labour markets have profound implications for education and training systems even though many of them remain unpredictable. Acknowledging the autonomy and diversity of national, regional and local governments and contexts, emerging knowledge and 21st century skills should be considered in curriculum development and pedagogical approaches at all levels of education. The curricula should be highly responsive to evidence-based practices, future employment trends, and design in collaboration with key stakeholders

Job-Skills mismatch-> urgent action

5.7 % / ~ 728,000 (BPS 8/2019)

Unemployed university graduates in Indonesia
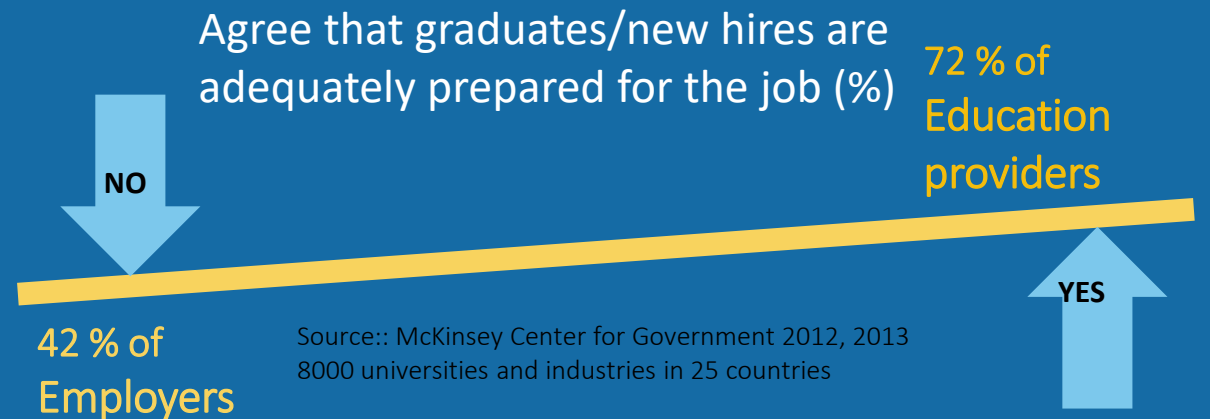
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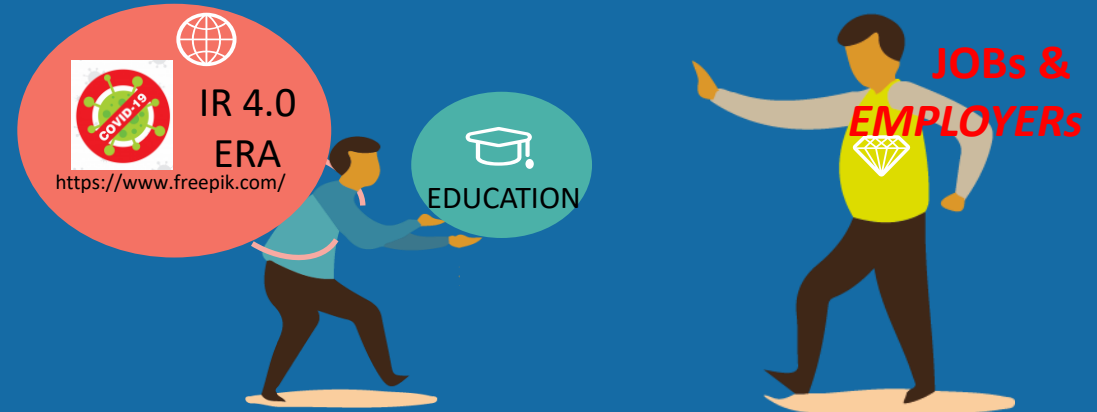
Employability skills *required by employers*
(WB, 2013 & Selingo, 2016):

1. *Critical n contextual thinking*
2. *positive work habits, leadership*
3. *communication*
4. *mathematics*
5. *problem solving and analysis*
6. *team work*
7. *creativity*
8. *digital literacy*

IR 4.0 ERA
https://www.freepik.com/

EDUCATION

JOBs & EMPLOYERs

curriculum IR 4.0 ?

Agree that graduates/new hires are adequately prepared for the job (%)

72 % of Education providers

NO

YES

42 % of Employers

Source:: McKinsey Center for Government 2012, 2013
8000 universities and industries in 25 countries

! Report from ACDC Indonesia (2013) : "serious problem with the link between universities and employers, ranging from English and computing skills, to behavioral and thinking skills: leadership, problem solving and creativity"

Hypothesis : the labor market/job is demanding a combination of skills different to the ones that are being provided by the educational system (Marmolejo, World Bank, 2017).

Designed @

6

Industry 4.0 and Indonesia

More jobs will be created until 2030 than those lost due to automation→→ HEIs to prepare their students for a future work

The health, construction, manufacturing, and retail sectors will experience an increase in labour demand

Around 23 million of existing jobs will be replaced by automation.

McKinsey & Company

Automation and the future of work in Indonesia

Jobs lost, jobs gained, jobs changed

AUTOMATION THREATENS

23 MILLION JOBS

Jobs that will be lost/at risk of automation: repetitive jobs: data entry, production workers, data collection and others
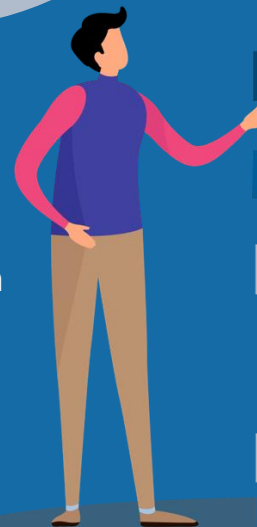
Opportunity

27-46 million

New Jobs

10 million of these new jobs are types of work that have never existed before

Coping the Challenges of IR.4.0 : New Literacies: the Ministry of Research Technology and Higher Education (2018)

Re-orient the curriculum

IR 4.0 **not only (old) literacy on reading, writing, and mathematics as key for participation in society**

Data Literacy
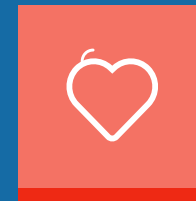read, analysis, and use the information (***Big Data***) in digital world

Technology Literacy
Understand the machine process and technology application (*Coding, **AI**, Engineering Principles, & Biotech*).

Human Literacy
Humanities, social justice, Communication, & Design. [to make one function in human environment]

(Aoun, MIT, 2017)

➕ **Life Long Learning: learn new skills, change profession, relevance**

Kampus Merdeka ("Experiential Campus") Ministry of Education and Culture (2020)
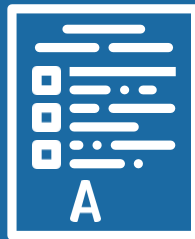
1

Authority to open new study program

2

Accreditation System

3

Easyness for University to become an autonomous university

4

The right to study three semesters outside the study program

"These four policy items aim to initiate a change in the paradigm of higher education to be more autonomous with an innovative learning culture. Higher education will have a learning process that is increasingly flexible and free to innovate according to the needs of each institution"

Various activities of the students in out- of- class/campus (2-3 Semesters), experiential learning: integration classroom and real-world experiences (strengthening the cognitive capacities)

1 Internship, Co-Op

2 Projects in the villages

3 Teaching in Schools

4 Student exchange

5 Research

6 Entrepreneurial

7 Independent Study

8 Humanitarian projects

"The spirit of education is **not only** for the **economy but** also for the betterment of society and the world **"**

Image: nobelprize.org

The highest education is that which does not merely give us information, but **makes our life in harmony with all existence**. - Rabindranath Tagore, Nobel Prize 1913, India

Whatever is done by someone should be beneficial for oneself, the nation, and humanity at large
- Ki Hadjar Dewantara, 1889-1959. Moinister o f Nationnal Education Inndonesia

https://edukasi.kompas.com/read/2017/05/02/13433871/siapa.dan.apa.ajaran.ki.hadjar.dewantara.?page=all.

Education is much more than an entry to the job market. **It has the power to shape a sustainable future and better world.** Education policies should promote peace, mutual respect and environmental care
- Ban Ki-moon, the United Nations Secretary General

Image: Wikipedia.com

Thank you

Focus on Quality for a better future