

AHMAD LUTFI KARIM
UNIVERSITAS GADJAH MADA



ProEd (Programming Education)

Program Unggulan Peningkatan *Human Capital* Menghadapi Bonus Demografi Indonesia 2030



MR. WASADI

FORMER CONVENTIONAL TAXIBIKE DRIVER

Age Group: 40-50 Years Old

Daily income increased up to 2-4 times after
joined online taxibike (Gojek)

Easy to find passenger and guaranteed by
insurance



What He Needs?



ACCESS TO CUSTOMERS

Easy to seek customer by mobile phone.



INSURANCE

Safety guarantee.



INCREASE OF INCOME

By certainty of customer will increase his income.

ARE WE READY ENOUGH?

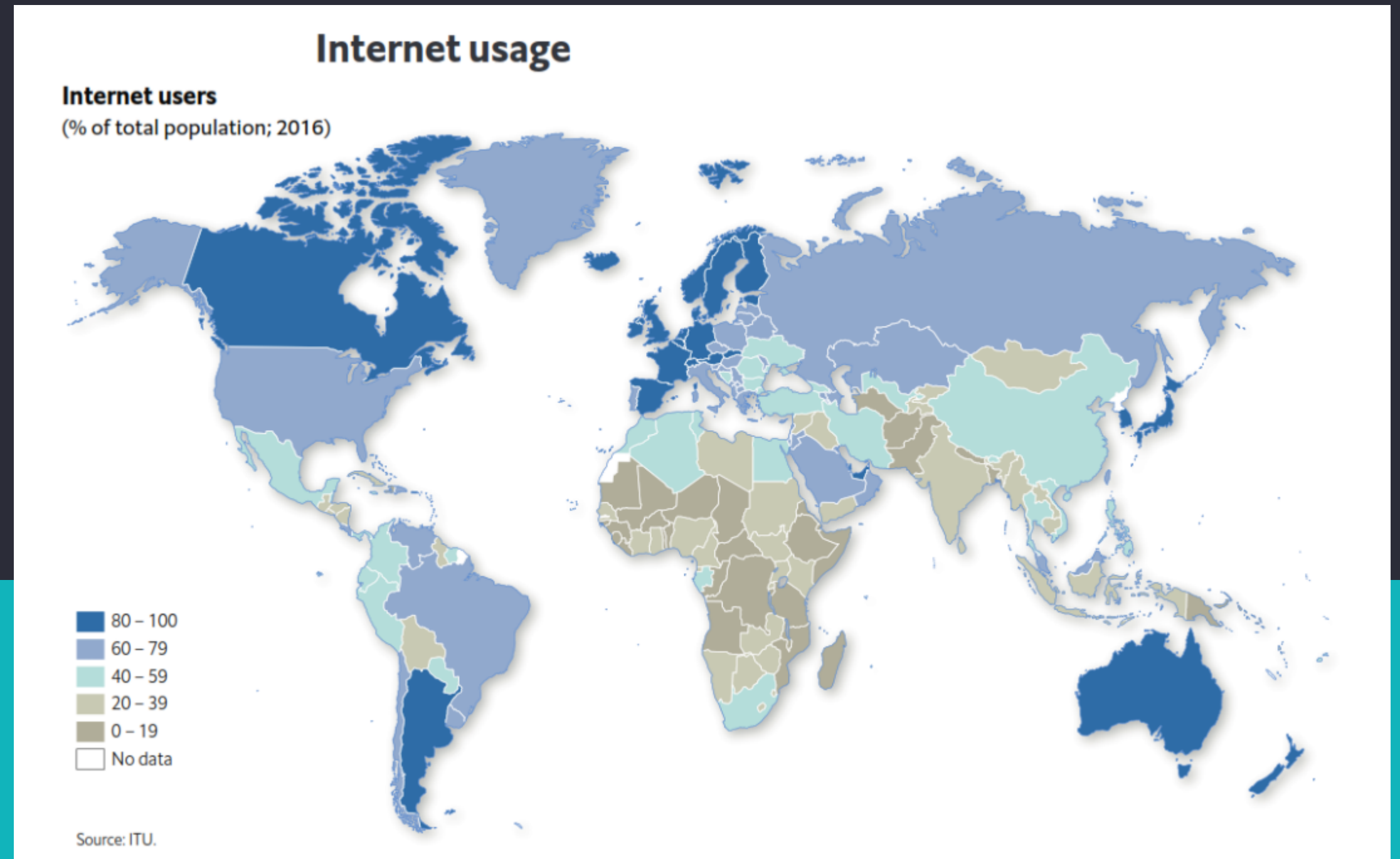
69TH

RANK OF WORLD
TECHNOLOGICAL READINESS IN
2017 BY THE ECONOMIST
INTELLIGENCE UNIT

61.1

SCORE OF ICT ADOPTION BY
THE GLOBAL COMPETITIVENESS
INDEX 2018

OUR WORLD



INTERNET AROUND THE GLOBE

20-39% of total population of Indonesia are using Internet.
Source: ITU, 2016

SKILLS SHIFT IN 2030

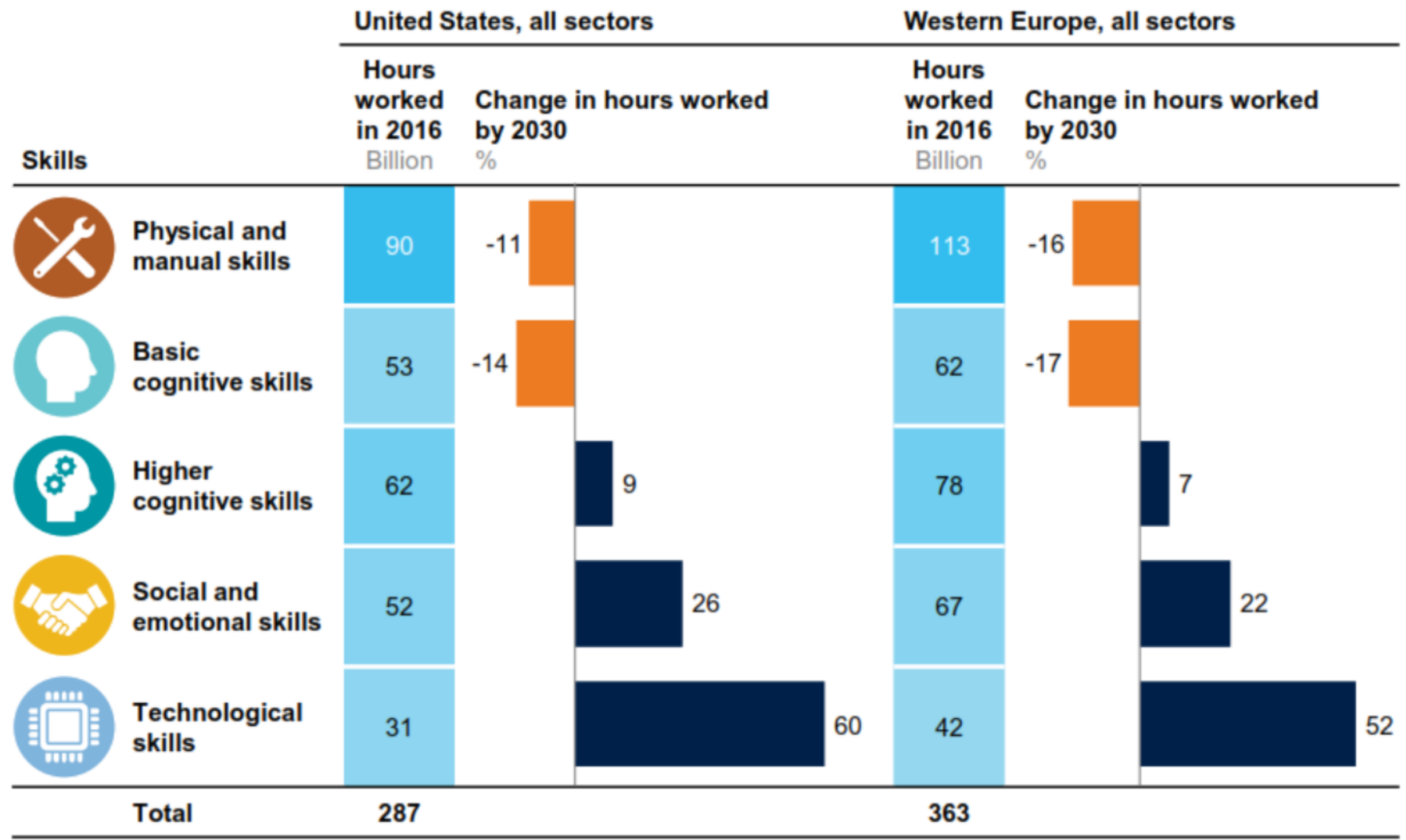
BY HOURS WORKED

52-60%

The significant increase of Technological skills needed in US and Western Europe (McKinsey, 2018)

Automation and AI will accelerate the shift in skills that the workforce needs.

Based on McKinsey Global Institute workforce skills model



NOTE: Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom. Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute workforce skills model; McKinsey Global Institute analysis

Moving Technology Forward By Programming Education



To the Future

ADVANCEMENTS TODAY

By introducing programming education and implementing it to the various technology field.



NEW TECHNOLOGY TOMORROW

Internet of Things, Artificial Intelligence, Human–Machine Interface, and Robotics will be the accelerator of Indonesia's ICT adoption.





PROGRAMMING EDUCATION

PROGRAM PENINGKATAN KEAHLIAN SISWA DI BIDANG PEMROGRAMAN (VOKASIONAL)

- Aplikasi online pembelajaran pemrograman berbasis web
- Implementasi coding di lingkungan sekolah mulai dari SD hingga SMA
- Dirumuskan dalam kurikulum sesuai jenjang pendidikan (SD, SMP, dan SMA)

Penerapan ProEd



STUDENT CENTERED LEARNING CONCEPT

Siswa harus
menerapkan hasil
pekerjaannya secara
langsung di Browser



PENERAPAN BAHASA JAVASCRIPT AND PHYTON

Tools yang
multifungsi dan ringan



DI DAERAH PERKOTAAN

Adanya dukungan
Infrastruktur digital
dan sumber daya
teknis yang memadai

PROTOTYPE



 PLAY

PARENTS

EDUCATORS

SIGN IN

|

SIGN UP

Coding Made Easy

Everything your child needs to learn
computer programming the fun way!

[EXPLORE COURSES](#)



ProEd empowers kids to become creators

All they need is the internet and a computer.

FEEDBACK

A pathway to coding confidence

Our interactive self-paced learning allows kids to progress their skills and seamlessly transition to text languages like JavaScript and Python.



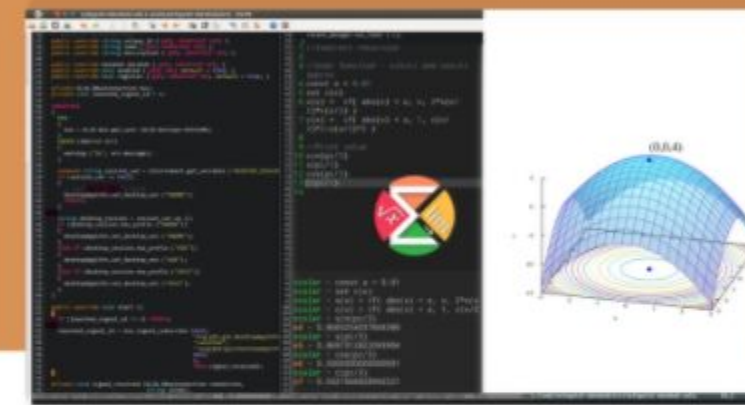
Elementary School

Drag and Drop Coding

Build apps and games

Design countryballs mod

Control balls



Junior-Senior High School

Real-World Coding

Explore STEM subjects

Java Script and Phyton

Web dev with HTML, CSS

EXPLORE COURSES

FEEDBACK

PERKEMBANGAN TVET (TECHNICAL AND VOCATIONAL TRAINING)

MATURE ECONOMIES

Negara yang telah menerapkan ekosistem TVET yang kuat

FAST-GROWING ECONOMIES

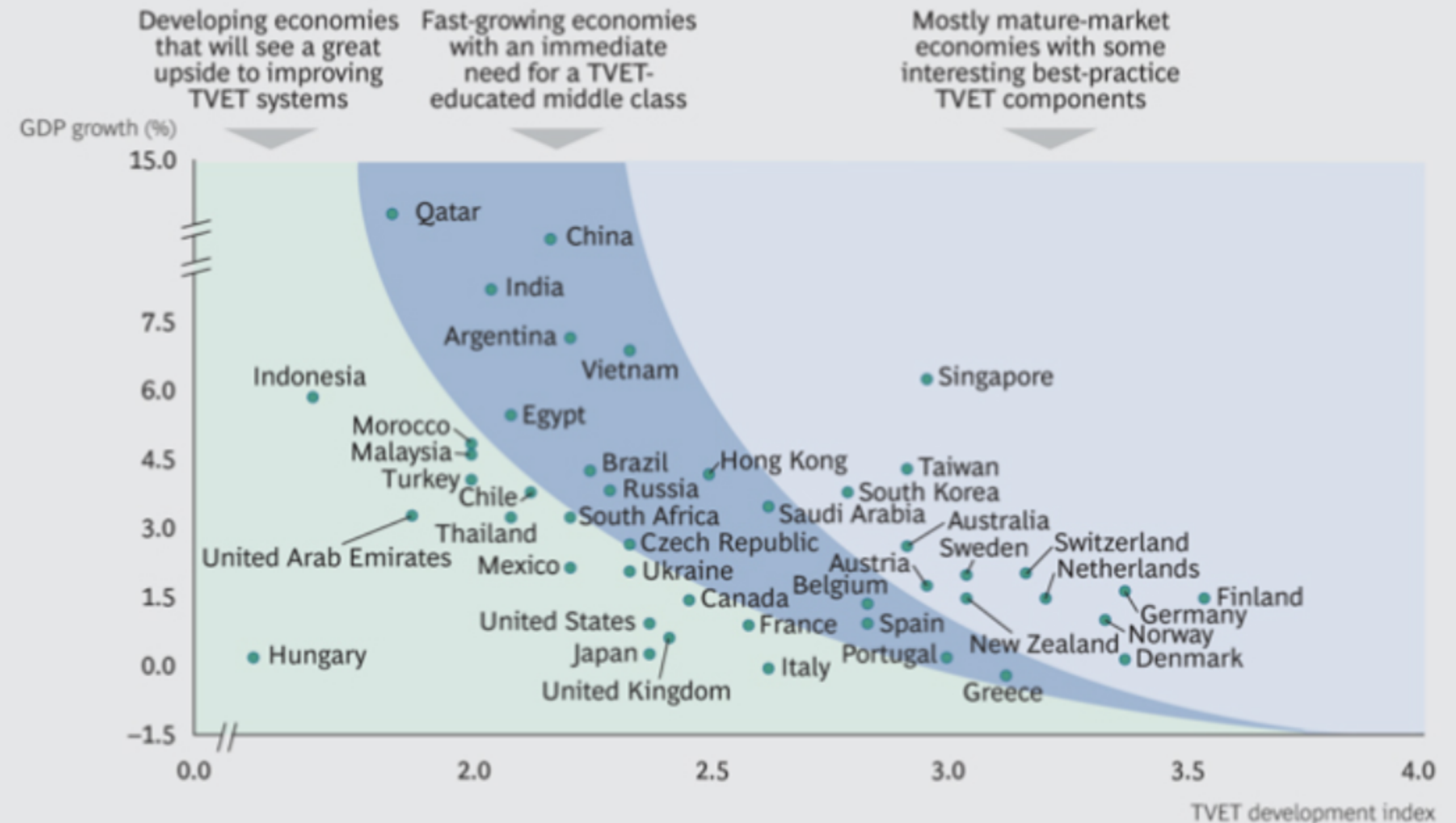
Negara yang sedang mengembangkan ekosistem TVET mereka dan berusaha mengimplementasikannya secara stabil

DEVELOPING ECONOMIES

Negara yang memiliki potensi keuntungan relatif terbesar dari perbaikan ekosistem TVET mereka. **Indonesia** termasuk ke dalamnya.

Sumber: BCG

EXHIBIT 1 | BCG's TVET Performance Matrix Ranks the Relative TVET Performance of 45 Countries



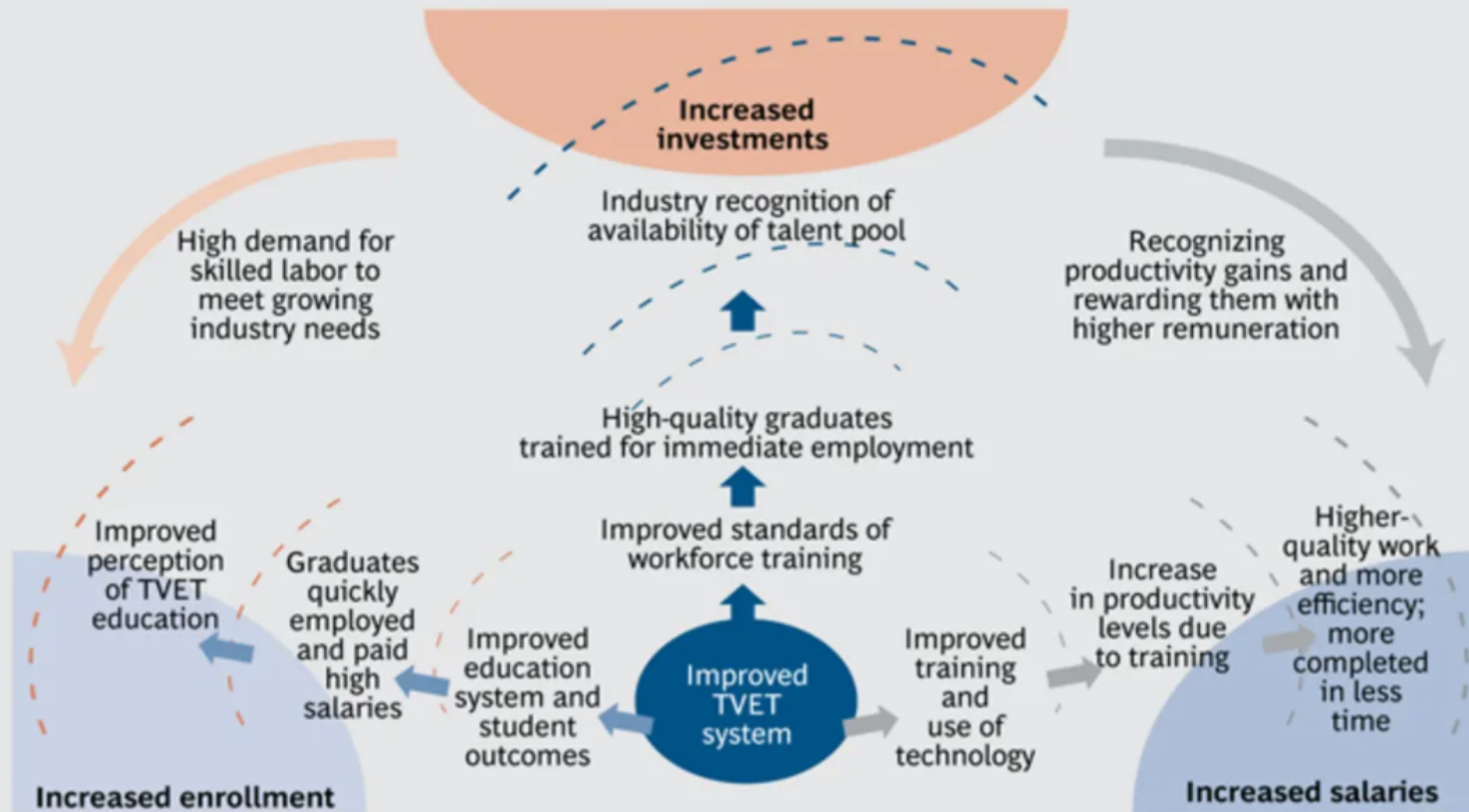
Source: BCG analysis.

Note: The GDP growth shown is an average of annual growth rates from 2005 through 2011.

MANFAAT PENERAPAN PROED

- PENINGKATAN PEMINATAN PADA TVET
- MENINGKATKAN INVESTASI PERKONOMIAN
- PENINGKATAN UPAH PEKERJA

EXHIBIT 2 | An Improved TVET System Leads to a Range of Economic Benefits

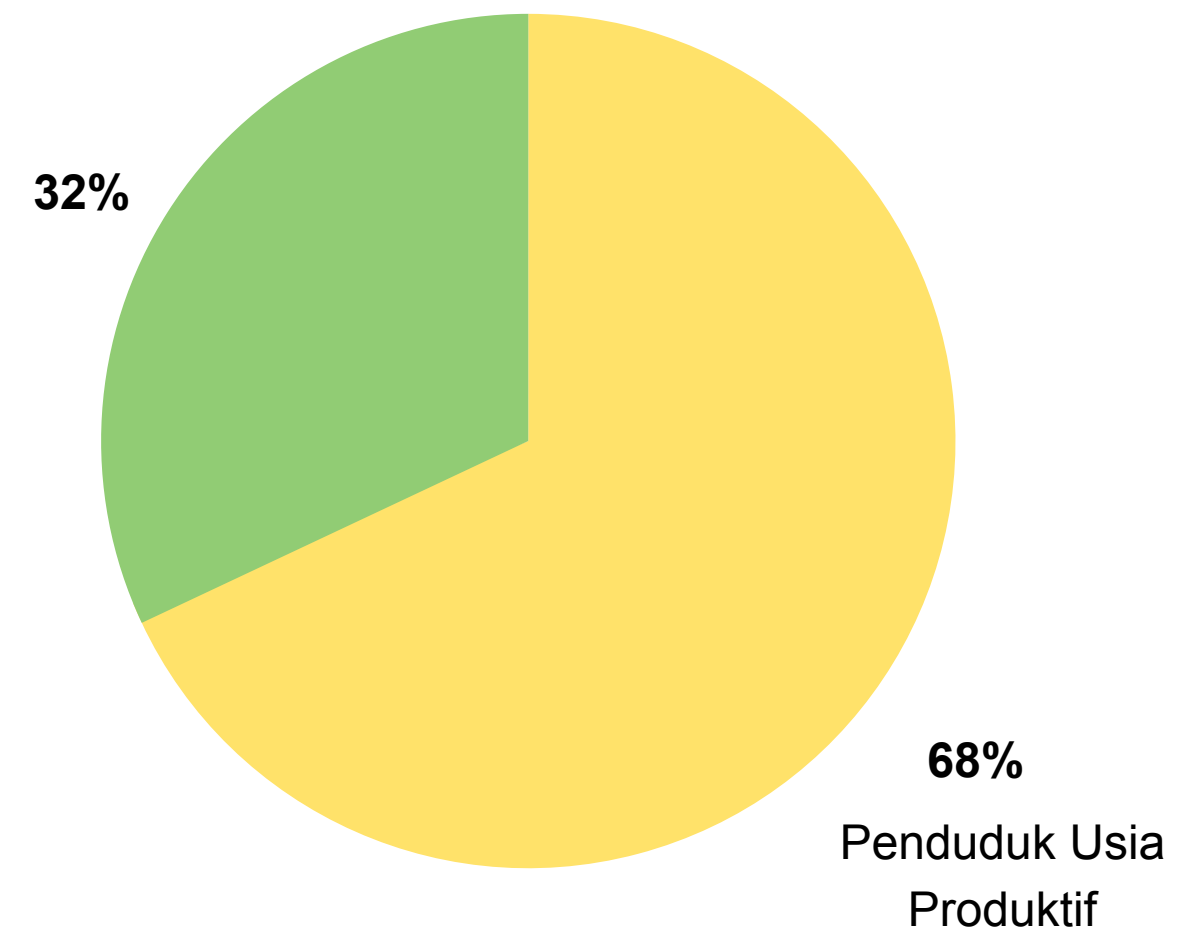


Source: BCG analysis.

IMPLIKASI PROED DENGAN BONUS DEMOGRAFI

**PERSIAPAN MENGHADAPI
BONUS DEMOGRAFI MELALUI
PENINGKATAN KUALITAS SDM
DI BIDANG PEMROGRAMAN
(TECH.READINESS)**

Proyeksi Penduduk Indonesia Tahun 2030



Sumber: Bappenas

Meraih Bonus Demografi 2030

□ KEGIATAN EKONOMI INKLUSIF

Membuka peluang bagi semua orang dalam kegiatan ekonomi

□ MANAJEMEN MAKROEKONOMI

Stabilitas makro dan inflasi yang rendah

□ KEBIJAKAN DI AREA PASAR KEUANGAN

Investasi produktif melalui iklim investasi yang kondusif

□ PENINGKATAN KUALITAS SDM

Mencapai efisiensi pekerjaan dan peningkatan profit

□ KUALITAS INSTITUSI PEMERINTAHAN

Efektifitas dan efisiensi kebijakan dan praktik

□ KETERBUKAAN EKONOMI

Perdagangan internasional dan industri berbasis ekspor

Output yang Diharapkan




PROED

- Akses mudah melalui browser
- Student centered learning concept
- Penerapan bahasa Javascript dan python
- Disesuaikan dengan kurikulum siswa
- Partnership dengan pemerintah
- Upaya penerapan TVET
- National Widescale (dengan sumber daya teknis memadai)



- BERKONTRIBUSI PADA LEBIH DARI 50% GDP
- MERAH BONUS ASEAN DEMOGRAFI 2030
- MENINGKATNYA INVESTASI PERKONOMIAN
- MELAHIRKAN BERBAGA INOVASI




THANK YOU FOR YOUR
ATTENTION

“

*Imagination is more important
than knowledge.*

ALBERT EINSTEIN

Sources

- 
- Bappenas. 2017. *Bonus Demografi 2030-2040*. Siaran Pers 22 Mei 2017.
- BCG. 2012. *Vocational Education*. Boston: Boston Consulting Group, Inc.
- Bloom, D.E., D. Canning, L. Rosenberg, 2011. "Demographic Change and Economic Growth in South Asia." *PGDA Working Paper* No.67
- International Telecommunication Union. 2018. *Internet usage, mobile phone subscriptions and the Global Cyber-Security Index*.
- Mckinsey Global Institute, 2018. *Skill Shift AUtomation and The Future of The Workforce*. New York: McKinsey Global Institute
- The Economist. 2017. *Preparing for disruption Technological Readiness Ranking*. London: The Economist Intelligence Unit
- World Economic Forum. 2018. *Global Competitiveness Index*. Accessed June 19 th 2019.